

# Service Manual

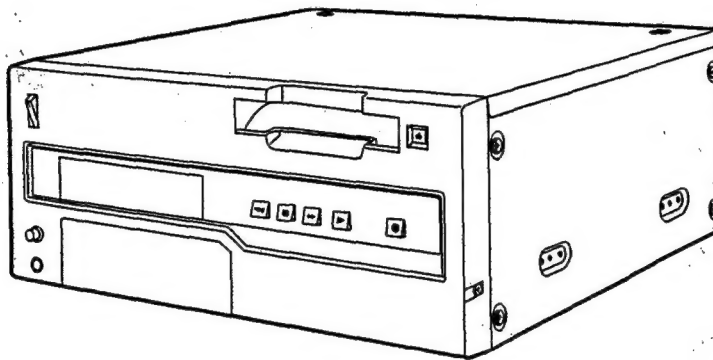
## Volume 1

**DVCPRO**

Digital Video Cassette Recorder

**AJ-D650P**  
**AJ-D640P**

- Sec. 1** *Operating Instructions*
- Sec. 2** *Service Information*
- Sec. 3** *Maintenance & Mechanical Adjustments*
- Sec. 4** *Electrical Adjustments*
- Sec. 5** *Exploded Views & Replacement Parts Lists*



Please refer to the Service Manual Volume 2 (order No. VSD9611MG01B) for block diagrams, schematic diagrams and circuit board diagrams.

**Panasonic®**

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## **⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service manual by anyone else could result in serious injury or death.

## **INTRODUCTION**

This service manual contains technical information which will allow service personnels to understand and service the DVCPRO Studio VTR AJ-D650P/D640P.

If the part or circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original manual.

# Specifications

## GENERAL

Power supply:	AC 120 V $\pm$ 10%, 50 – 60 Hz
Power consumption:	150 W

Operating ambient temperature:	41°F to 104°F (5°C to 40°C)
Operating ambient humidity:	10% to 90% (no condensation)
Weight:	35.2 lbs (16 kg)
Dimensions (W×H×D):	16-3/4×6-15/16×16-3/8 inches (424×175×415 mm)
Recording format:	DVCPRO format
Recording tracks:	Digital video Time code Recorded in sub-code area Digital audio 2channels Cue Track 1 track Control (CTL) 1 track
Tape speed:	33.820 mm/sec
Recording time:	General purpose cassette; Max. 123 minutes News-gathering cassette; Max. 63 minutes
Tape:	1/4-inch thin magnetic layer metal tape
FF/REW time:	Less than 3 min (with general purpose cassette) Less than 2 min (with news-gathering cassette)
Search speed:	0 to $\pm$ 60× normal speed (color)
Digital slow motion:	+0.75× normal speed in + direction –0.43× normal speed in – direction
Editing accuracy:	$\pm$ 0 frame (using time code)
Tape timer accuracy:	$\pm$ 1 frame (using continuous CTL signal)
Servo lock time:	Less than 0.5 sec. (color framing/standby ON)

## VIDEO

### (Digital video)

Sampling frequencies:	Y: 13.5 MHz/Pb, Pr: 3.375 MHz
Quantizing:	8 bits
Error correction:	Reed-Solomon product code

### (Digital IN/analog component OUT)

Video bandwidth:	Y: 30 Hz to 5.5 MHz ( $\pm$ 1.0 dB) Pb, Pr: 30 Hz to 1.0 MHz ( $\pm$ 1.0 dB) Better than 60 dB
S/N ratio:	Better than 60 dB
K factor:	Less than 2%

### (Analog component IN/component OUT)

Video bandwidth:	Y: 30 Hz to 5.5 MHz (–1.5 dB to +1.0 dB) Pb, Pr: 30 Hz to 1.0 MHz (–2.0 dB to +1.0 dB)
S/N ratio:	Better than 55 dB
K factor:	Less than 2%

### (Analog composite IN/composite OUT)

Video bandwidth:	Y: 30 Hz to 4.5 MHz (–1.5 dB to +1.0 dB)
Y/C delay:	Better than 20 ns
K factor:	Less than 3%

### (Video input connector)

Analog component input:	BNC×3 (Y, Pb, Pr) Y: 1.0 Vp-p, 75 $\Omega$ Pb, Pr: 0.486/0.7 Vp-p switchable, 75 $\Omega$ (75% color bar, 7.5% setup)
Analog composite input:	BNC×2, loop-through, 75 $\Omega$ on/off
S VIDEO input:	S terminal (4-pin)×1 Y: 1.0 Vp-p, 75 $\Omega$ C: 0.286 Vp-p (burst), 75 $\Omega$
Reference input:	Analog composite BNC×2, loop-through, 75 $\Omega$ on/off
Serial digital component input (option):	Complies with SMPTE259M-C standard, BNC×2, active through

### (Video output connector)

Analog component output:	BNC×3 (Y, Pb, Pr) Y: 1.0 Vp-p, 75 $\Omega$ Pb, Pr: 0.486/0.7 Vp-p switchable, 75 $\Omega$ (75% color bar, 7.5% setup)
Analog composite output:	BNC×3 Video1/video2/video3 (superimpose on/off)
S VIDEO output:	S terminal (4-pin)×1 Y: 1.0 Vp-p, 75 $\Omega$ C: 0.286 Vp-p (burst), 75 $\Omega$
Serial digital component output (option):	Complies with SMPTE259M-C standard, BNC×3

### (Video signals adjustment)

Video output gain:	$\pm$ 3 dB
Video output chroma gain:	$\pm$ 3 dB
Video output hue:	$\pm$ 30°
Video output setup:	$\pm$ 15 IRE
Video output sync phase:	$\pm$ 2 $\mu$ s
Video output SC phase:	$\pm$ 180°

Control from ENCODER  
REMOTE connector

## AUDIO

### (Digital audio)

Sampling frequencies:	48 kHz
Quantizing:	16 bits
Frequency response:	20 Hz to 20 kHz (–1.0 dB to +0.5 dB)
Dynamic range:	Better than 86 dB (1 kHz, emphasis OFF, "A" weighted)
Distortion:	Less than 0.1% (1 kHz, emphasis OFF, standard level)
Crosstalk:	Less than –80 dB (1 kHz, between 2 channels)
Wow & flutter:	Below measurable limits
Headroom:	20 dB
De-emphasis:	T1=50 $\mu$ s/T2=15 $\mu$ s (on/off automatic)

### (Cue track)

Frequency response:	300 Hz to 6 kHz $\pm$ 3 dB
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### (Audio input connector)

Analog input (CH1/CH2):	XLR×2, 600 $\Omega$ /high impedance selectable, +4/0/–20 dBu
Digital input (CH1/CH2) (option):	BNC×1, AES/EBU format
Serial digital input (option):	Complies with SMPTE259M-C, 272M standard (BNC)

### (Audio output connector)

Analog output (CH1/CH2):	XLR×2, low impedance, +4/0/–20 dBu
Digital output (CH1/CH2) (option):	BNC×1, AES/EBU format
Serial digital output (option):	Complies with SMPTE259M-C, 272M standard (BNC)
Monitor output:	Phono×1, 600 $\Omega$ , –8 dBV
Headphones:	Variable level, 1/4" phone, 8 $\Omega$

### Other input/output connector

Time code input:	BNC×1, 0.5 to 8 Vp-p
Time code output:	BNC×1, 2.0 Vp-p
RS-422A input/output:	D-sub 9-pin, RS-422A interface
RS-232C:	D-sub 25-pin, RS-232C interface
Encoder remote:	D-sub 15-pin

Weight and dimensions when shown are approximately.  
Specifications are subject to change without notice.

# SAFETY PRECAUTIONS

## GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

## LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 M $\Omega$  and 5.2 M $\Omega$ . When the exposed metal does not have a return path to the chassis, the reading must be  $\infty$ .

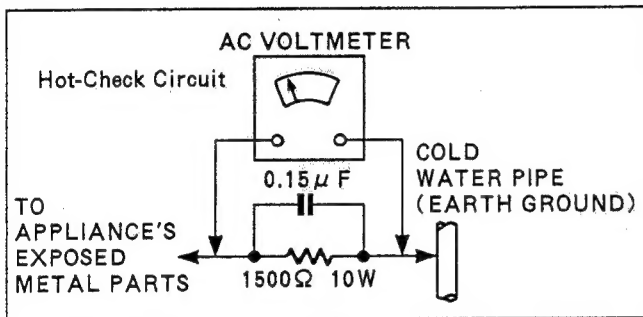


Figure 1

## LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5 K $\Omega$ , 10W resistor, in parallel with 0.15  $\mu$  F capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

## ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.  
**CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

## X-RADIATION

### WARNING

1. The potential source of X-Radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.  
**NOTE:** It is important to use an accurate periodically calibrated high voltage meter.
3. Measure the High Voltage. The meter (electric type) reading should indicate 2.5kV,  $\pm$  0.15kV. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.



# SECTION 1

## OPERATING INSTRUCTIONS

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## General and Features

This unit is a digital video cassette recorder which uses 1/4-inch tapes. It incorporates digital compression technology so that the deterioration in picture quality and sound quality resulting from dubbing is significantly minimized compared with existing analog systems. Furthermore, since it has a compact 4U size and light weight, the unit can be carried around or mounted in a 19-inch rack with ease. The settings for the unit's setup can be performed while viewing the screen menus on the TV monitor. With the AJ-D650 unit, both assemble and insert editing are possible through external control.

### Features

#### Compact size and light weight

This is a 4U size digital VTR. It can be mounted in a 19-inch rack with ease using the optional rack-mounting adaptors (AJ-MA34HP).

#### Up to 123 minutes of recording

Two sizes of cassette tapes can be used with this unit: the news-gathering cassette (max. 63 minutes) and general purpose cassette (max. 123 minutes). The width of the tapes measures 1/4 inch to achieve a compact design.

#### Compatibility with consumer products

Consumer cassette tapes shot with digital cameras available on the consumer market can be played back on this unit using the optional cassette adaptor (AJ-CS750P).

##### <Notes>

- Slow playback of consumer cassette tapes will not produce the smooth operation produced by slow playback of DVCPRO cassette tapes.
- Consumer cassette tapes recorded in LP mode cannot be played back.

#### Digital slow motion/jog

Noiseless images can be played back from speeds ranging from still picture to approx.  $\pm 1/2 \times$  normal tape speed through the external controller.

##### <Notes>

- Some noise may occur when the slow motion speed is changed.
- When slow motion playback is used, the top and bottom of the screen shift.

#### Time codes

This unit comes with a built-in time code generator (TCG)/time code reader (TCR). In addition to the internal time code, time code facilities include external time code input as well as recording of the input signal VITC code.

#### Multi-function input/output interfaces

##### • Analog input/output

Component (Y, Pb, Pr) and composite and S-VIDEO signal input and output connectors are provided.

##### • Digital audio input/output

AES/EBU audio input/output is possible when the optional digital audio interface board (AJ-YA655P) is used.

##### • Serial digital input/output

Serial digital (SMPTE 259M-C, 272M) input/output is possible when the optional component serial interface board (AJ-YA750P) is used.

##### <Note>

The AJ-YA655P board, sold separately, is necessary when using serial digital audio (SMPTE 272M).

##### • 9-pin (RS-422A)/(RS-232C) remote

The standard 9-pin serial (RS-422A) connector or an optional RS-232C connector is used.

## Features

(continued)

#### 2-channel high-sound-quality digital audio

Sound can be edited separately for two channels, and channel mixing capabilities are also available. One channel is provided for the analog cue track.

Information selected from audio CH1 and CH2 can be recorded in the cue track memory. (Set at the set up menu.)

- Cue track input and output connectors are not provided.

#### Dial jog/shuttle operation is possible through the external controller

All playback is free of noise bars with jog operations

Performed when the variable range is set between  $-0.43$  and  $+1 \times$  normal tape speed.

Shuttle operations can be performed up to  $60 \times$  normal tape speed in both forward or reverse directions. Color images are well-defined even during high-speed searches.

#### Automatic editing functions from the external controller (only AJ-D650)

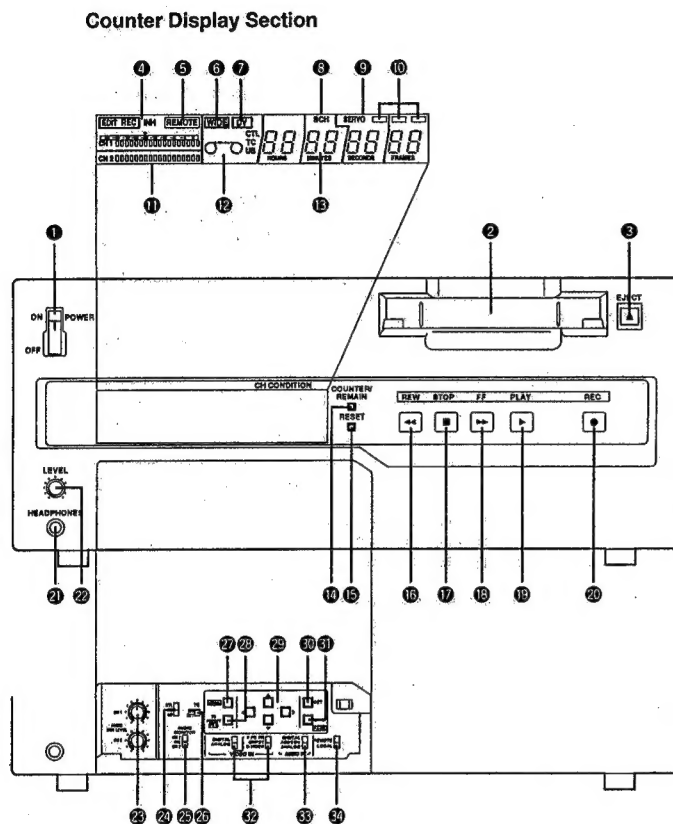
AJ-D650 allows both assemble and insert editing from the external controller.

#### Menu-driven setup

The setup settings, which are conducted prior to operating the unit, are performed while viewing the screen menus either on the unit display or TV monitor.

## Controls and their functions

### Front panel



#### 1 POWER switch

When the ON side is pressed, the power is switched on, and the counter display lights up.

#### 2 Cassette Insertion slot

The news-gathering cassette, general-purpose cassette and consumer cassette with adaptor are inserted into this slot.  
Consumer cassettes can be played back only.

#### 3 EJECT button

When this is pressed, the tape is unloaded and several seconds later the cassette is automatically ejected. When the counter display indicates "CTL", the display is reset.

#### 4 EDIT/EDIT REC/REC/REC INH lamps

**EDIT:** This lights when the editing mode is chosen from the 9P remote control.

**EDIT REC:** This lights when editing from the 9P remote control.

**REC:** This lights during video recording.

**REC INH:** This lights when the accidental erasure prevention mode has been set for the cassette. In this state, neither recording nor editing is possible.

#### 5 REMOTE lamp

This lights when the REMOTE/LOCAL switch has been set to the REMOTE position.

#### 6 WIDE lamp

This lights when the unit is in 16:9 wide screen mode.

#### 7 Consumer cassette insertion display lamp

This lights when a cassette recorded on a consumer DV device has been inserted.

#### 8 SCH lamp

This lights when the SCH of the external sync signal is within a specific range.

#### 9 SERVO lamp

This lights when the drum servo and capstan servo have locked.

#### 10 Channel condition lamps

One of these lamps lights in accordance with the error rate status. (Green→blue→red)

**Green:** This lights when the error rates for the video and audio playback signals are both acceptable.

**Blue:** This lights when the error rate for the video or audio playback signals has deteriorated.

**Red:** The playback picture will remain normal even when this lamp lights.  
This lights when the video or audio signals are subject to rectification or interpolation.

#### 11 Level meters

These indicate the PCM audio signal CH1/CH2.

The audio signal indicates the input signal levels during recording and EE selection, and the output signal levels during playback.

#### 12 Cassette Insertion display lamp

This lights when a cassette has been inserted into the unit.

#### 13 Counter display

This displays the TC and CTL count values, on-screen information and other messages.

## Controls and their functions (continued)

### 14 COUNTER/REMAIN button

This switches between the tape counter tape time indicator and the remaining tape indicator. [r \*\*\*] is displayed in the case of the remaining tape indicator. After the cassette tape is inserted, [r ---] (--- flashes) is displayed until remaining tape is calculated, and [r E.J] (EJ flashes) when ejecting the tape.

### 15 RESET button

When this is pressed during CTL mode, the counter returns to the 00:00:00:00 display. During menu setup, initial setting values are restored when the RESET button is pressed.

### 16 REW button\*\*1

The tape is rewound when this is pressed. The unit goes into shuttle (SHTL) mode at  $-9.5 \times$  normal tape speed when this button is pressed together with the PLAY button.

### 17 STOP button

When this is pressed, the tape stops traveling, and if the setup menu No. 111 (STOP EE SEL) is set to TAPE, still pictures can be monitored. The drum continues to rotate even in the stop mode, and the tape remains in close contact with the drum. If the stop mode continues for more than a certain period of time, the unit automatically switches to the standby OFF mode in order to protect the tape. The stop mode is established immediately after a cassette has been inserted into the unit.

### 18 FF button\*\*1

The tape is fast forwarded when this is pressed. The unit goes into shuttle (SHTL) mode at  $+9.5 \times$  normal tape speed when this button is pressed together with the PLAY button.

### 19 PLAY button

Playback commences when this button is pressed. Recording commences when the button is pressed together with the REC button.

### 20 REC button

Recording commences when this button is pressed together with the PLAY button. When it is pressed during playback, search\*\*2, fast forward or rewind, EE mode images and audio signals can be monitored for as long as it is kept depressed. When it is pressed in the stop mode, EE mode images and sound can be monitored. When the STOP button is pressed, the original picture and sound are restored.

\*\*1 The FF/REW speed can be selected on the setup menu NO. 102 (FF, REW MAX), and it is set to the same speed.

\*\*2 No guarantee is made for the audio EE mode.

### 21 Headphones jack

The sound being recorded, played back or edited can be monitored on stereo headphones when they are connected to this jack.

### 22 Volume control

This is used to adjust the headphones volume and the monitor output volume. Whether the headphones output and monitor output volumes are to be linked or kept separate can be set on-screen menu. (Note that the headphones output volume is normally linked.) When the volumes are kept separate, the monitor output is set to the unity value (preset value).

### 23 Audio recording level controls

These are used to adjust the recording levels of the analog audio signal CH1/CH2.

### 24 CTL/TC/UB switch

Use this switch when selecting the counter display.  
CTL: Tape timer (control signal) is displayed.  
TC: Time code is displayed.  
UB: User bit is displayed.

### 25 MONITOR SELECT switch

This is used to select the audio signals output to the monitor channel. (With the No. 713 (MONI CH SEL) setting on the setup menu, the display may not match the monitor output.)

### 26 INT/EXT switch

INT: For using the built-in time code generator.  
EXT: For using the time external code which is input from the time code input connector or the video signal VITC. The selection is set at the setup menu.

### 27 MENU button

When this is pressed, the setup menu appears on the TV monitor using VIDEO OUT 3 connector, and the setup menu No. appears on the display. When it is pressed again, the setup mode is exited and the original operating mode is restored.

### 28 TC PRESET (FILE) button

When this is pressed, the time code setting mode is established. User file can be selected when the cursor buttons ([4], [5]) are used during the setup menu mode. (For details, see setup menu items on page 26.)

### 29 Cursor buttons ([4], [5], [6], [7])

These are used when setting time codes and settings at menu setup.

[4], [5]: These change the flashing digit in the time code indicators. Each time they are pressed, the flashing indicator moves incrementally to the left or right.

[4] increments to the left; [5] increments to the right.

[6], [7]: These change the flashing digit in the time code indicators.

Each time they are pressed, the indicated value increments and decrements.

[6] decrements the value; [7] increments the value.

The flashing digit changes continuously when the button is continuously pressed. For details about operation during setup menu mode, see setup menu items (page 25).

## Controls and their functions (continued)

### ⑩ SET button

When this is pressed, the data which has been set on the setup menu is entered. After data entry, the setup mode is exited and the original operating mode is restored.

### ⑪ DIAG button

When this is pressed, VTR information is displayed. When it is pressed again, the original display is restored.

There are two types of VTR information: "HOURS METER" information and "WARNING" information. Switching between these types is enabled by pressing the cursor buttons (◀, ▶).

Indicated on the "HOUR METER" screen are the power-on time, drum rotation time, tape travel time, loading count, etc.

Indicated on the "WARNING" screen are the warnings.

### ⑫ VIDEO INPUT switch

This switches the video input signal.

**DIGITAL:** For selecting serial component digital video signal (SMPTE 259M-C) recording.\*

**ANALOG:** recording.\*

For selecting analog video signal recording.

Select the analog video signal as follows to correspond with the input signal.

**Y PB PR:** For recording an analog component video signal.

**CMPST:** For recording an analog composite video signal.

**S-VIDEO:** For recording a S-VIDEO signal.

\*The optional AJ-YA750P serial interface board is necessary.

### ⑬ AUDIO INPUT switch

This switches the audio input signal.

**DIGITAL:** For selecting serial digital audio signal (SMPTE 272M) recording.\*\*

**AES/EBU:** For recording a digital audio signal.\*\*

**ANALOG:** For recording an analog audio signal.

\*\*Both the optional AJ-YA750P serial interface board and the optional AJ-YA655P digital audio interface board are necessary.

\*\*The optional AJ-YA655P digital audio interface board is necessary.

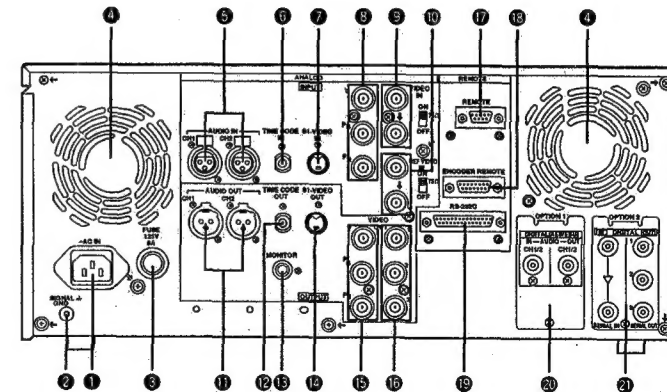
### ⑭ REMOTE/LOCAL switch

This switch is set when the unit is to be controlled from an external source using the REMOTE connector or RS-232C connector (option).

**REMOTE:** Set to this position when controlling the unit by a device connected using the 9-pin REMOTE connector or RS-232C connector.

**LOCAL:** Set to this position when controlling the unit using the controls on its own operation panel.

## Connector area



## Controls and their functions (continued)

### <Connector area>

- ① **AC IN connector**  
This is for connecting the unit to the power outlet using the power cord provided.
- ② **SIGNAL GND terminal**  
This terminal is connected to the signal unit which is connected to the unit in order to reduce noise. It is not connected to ground for safety purposes.
- ③ **Fuse holder**  
This contains a fuse.
- ④ **Fan motor**  
This is for cooling the unit.  
The error code is displayed on the counter when trouble has caused the fan motor to stop. If the unit is still operated in the warning status, the temperature inside the deck will rise, and when it exceeds the safety temperature, all the unit's operations will be shut down.
- ⑤ **ANALOG AUDIO IN connectors**  
These are the analog audio input connectors.
- ⑥ **TIME CODE IN connector**  
This is the connector for recording the external time code on the tape.
- ⑦ **S1-VIDEO IN connector**  
This is the S-VIDEO input connector.
- ⑧ **ANALOG COMPONENT VIDEO IN connector**  
The analog component video signal is supplied to this connector.
- ⑨ **ANALOG COMPOSITE VIDEO IN connectors and 75Ω termination switch**  
The analog composite video signal is supplied to these two connectors which are connected in a loop-through configuration. When the termination is required, set the switch to ON.
- ⑩ **REF VIDEO IN connectors and 75Ω termination switch**  
These are the input connectors for the reference video signals. When the termination is required, set the switch to ON.
- ⑪ **ANALOG AUDIO OUT connectors**  
The analog audio signals are output from these connectors.
- ⑫ **TIME CODE OUT connector**  
The playback time code is output from this connector during playback.  
During recording, the time code generated by the internal time code generator is output.
- ⑬ **MONITOR OUT connector**  
The playback signals from the CUE track or PCM audio signal CH1/CH2 are output from this connector.

### <Connector area>

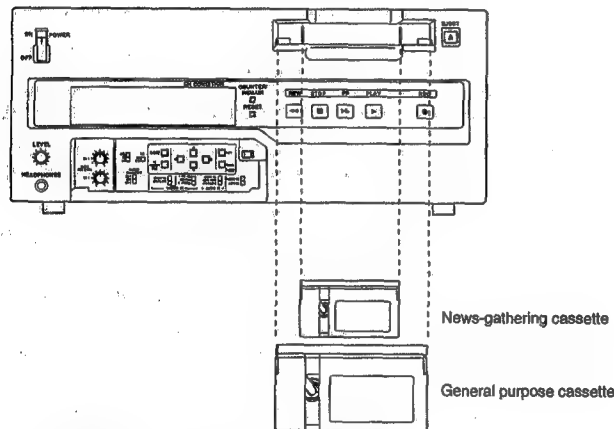
- ⑭ **S1-VIDEO OUT connector**  
This is the S-VIDEO output connector.
- ⑮ **ANALOG COMPONENT VIDEO OUT connector**  
The analog component video signal is output from this connector.
- ⑯ **ANALOG COMPOSITE VIDEO OUT connectors**  
The analog composite video signals are output from these connectors.  
The video signal with signals superimposed on it can be output from the VIDEO OUT3 connector.  
The superimpose function can be set ON or OFF on the setup menu No. 006 (SUPER).
- ⑰ **REMOTE connector**  
The unit can be controlled from an external source by connecting an external controller.
- ⑱ **ENCODER REMOTE connector**  
The external encoder/controller is hooked up to this connector when the video output signal and other settings are to be adjusted from an external source.
- ⑲ **RS-232C connector**
- ⑳ **DIGITAL AUDIO IN/OUT connector (optional AJ-YA655P required.)**  
This I/O connector is for digital audio signals which comply with the AES/EBU standard.
- ㉑ **SERIAL DIGITAL COMPONENT AUDIO/VIDEO IN/OUT connector (optional AJ-YA750P interface board required)**  
This I/O connector is for digital component audio and video signals which comply with the SMPTE 259M-C/272M standard.  
The optional AJ-YA655P is required for digital audio signal output on the AJ-YA750P board.

## Tapes

Three types of tapes can be used with the unit.

Type	Description
<b>Consumer cassette</b>	Tape designed exclusively for the camcorders used by consumers in general. Only playback is possible using the optional cassette adaptor.
<b>News-gathering cassette</b>	Recording/playback tape with a maximum capacity of 63 minutes. (AJ-P12MP, AJ-P23MP, AJ-P33MP, AJ-P63MP)
<b>General purpose cassette</b>	Recording/playback tape with a maximum capacity of 123 minutes. (AJ-P64LP, AJ-94LP, AJ-P123LP)

Align the cassette with the center of the insertion slot and push it in gently. The cassette tape is loaded automatically.

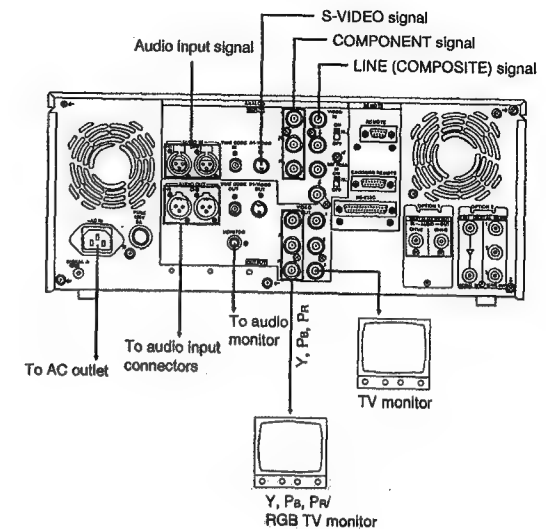


### <Notes for playback of consumer DV cassette tape>

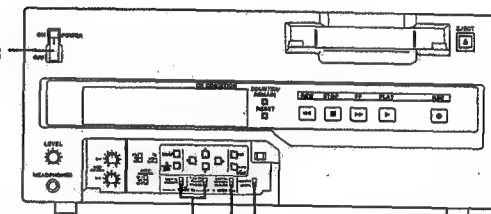
- Consumer tapes are for playback only, they cannot be recorded upon by the AJ-D640/AJ-650.
- Consumer cassette tapes recorded in LP mode cannot be played back.
- Material recorded on consumer tape must be played back and edited to another professional VTR.
- The recording functions, recording, Tape/EE and others will not function when Consumer tape is inserted in the VTR.
- Consumer tape FF/REW speed is VTR limited to  $\pm 32X$ . Slow motion playback of consumer format tapes may not be perfect.
- In order to protect the tape, the maximum STILL TIMER for consumer tape is 10 seconds, and the available time for leaving the tape in STILL mode during STEP FWD mode is set to 1 minute.
- Control (CTL) signals are not displayed when consumer tapes are used. Only the time code is displayed.

## When recording/playback using 1 unit

Set the CONTROL switch on the front panel to LOCAL.



Set the POWER switch to ON.



Set the VIDEO IN switch to the following position:

- "DIGITAL" for serial component digital video signal input.
- Set the VIDEO IN to ANALOG and select as following for the analog input:
  - "Y PB PR" for analog component video signal input.
  - "CMPST" for analog composite video signal input.
  - "S-VIDEO" for S-VIDEO signal input.

Set the CONTROL switch to LOCAL.

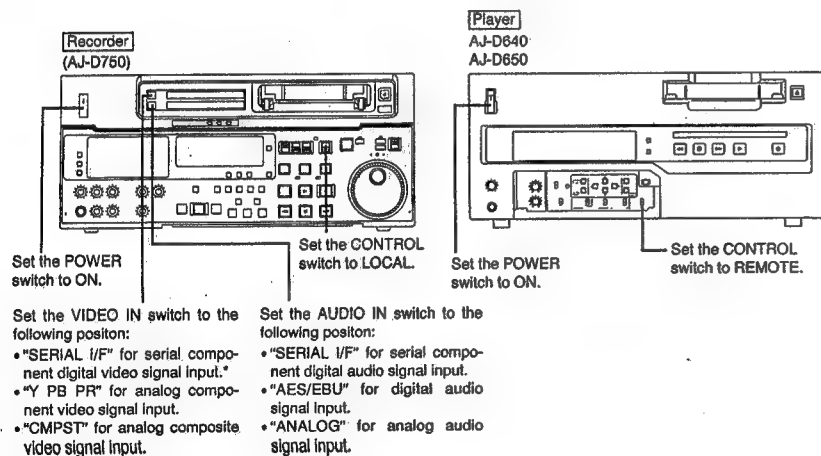
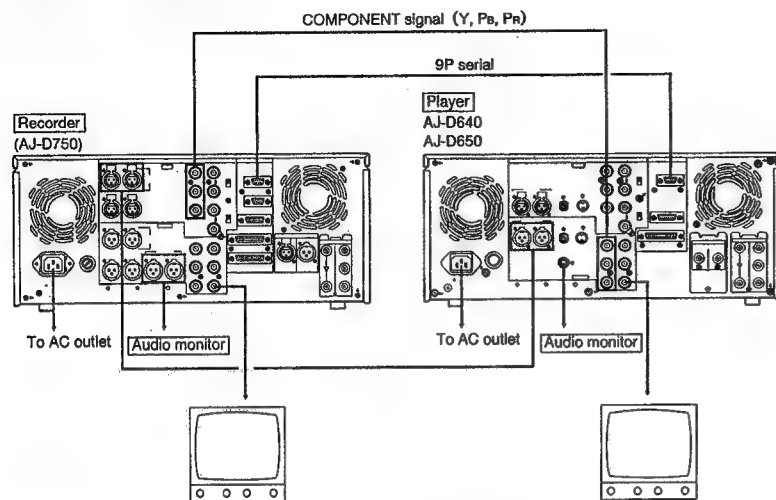
Set the AUDIO IN switch to the following position:

- "DIGITAL" for serial component digital audio signal input.
- "AES/EBU" for digital audio signal input.
- "ANALOG" for analog audio signal input.

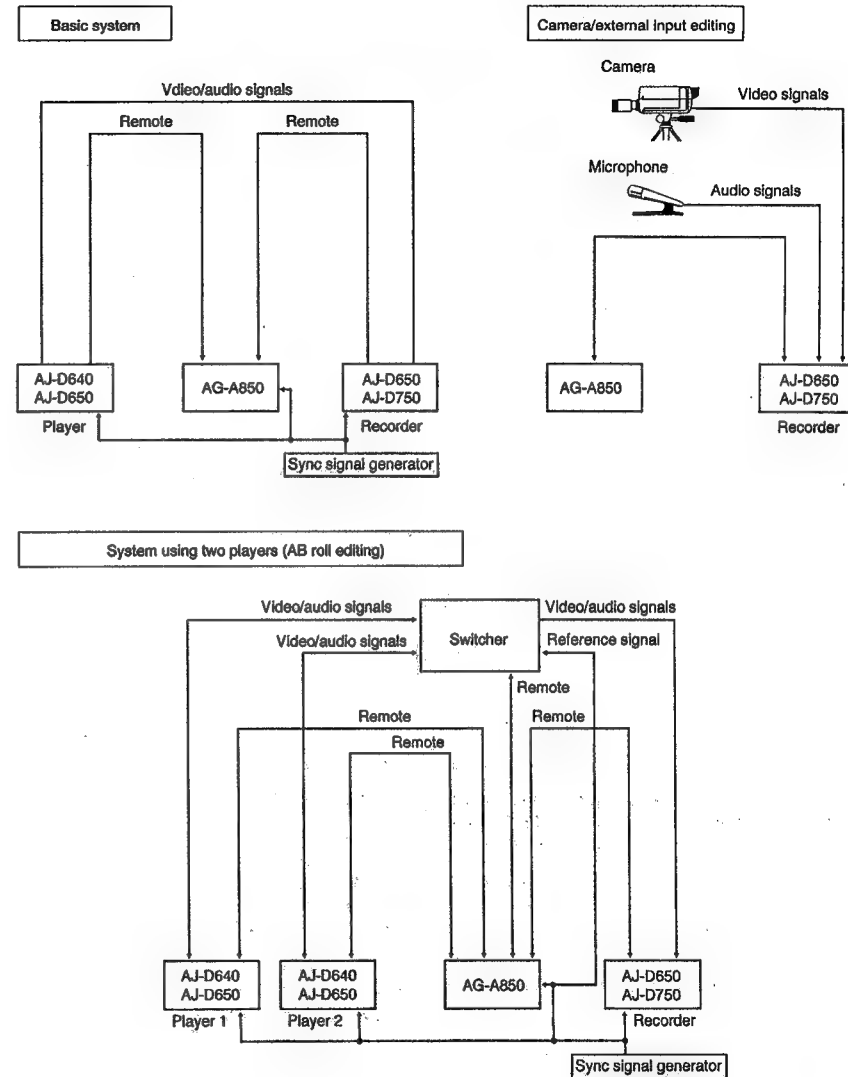


## When recording, playback & editing with 2 units (deck to deck)

The CONTROL switch on the recorder must be set to the LOCAL position, and the CONTROL switch on the player must be set to the REMOTE position.



## When using an editing controller

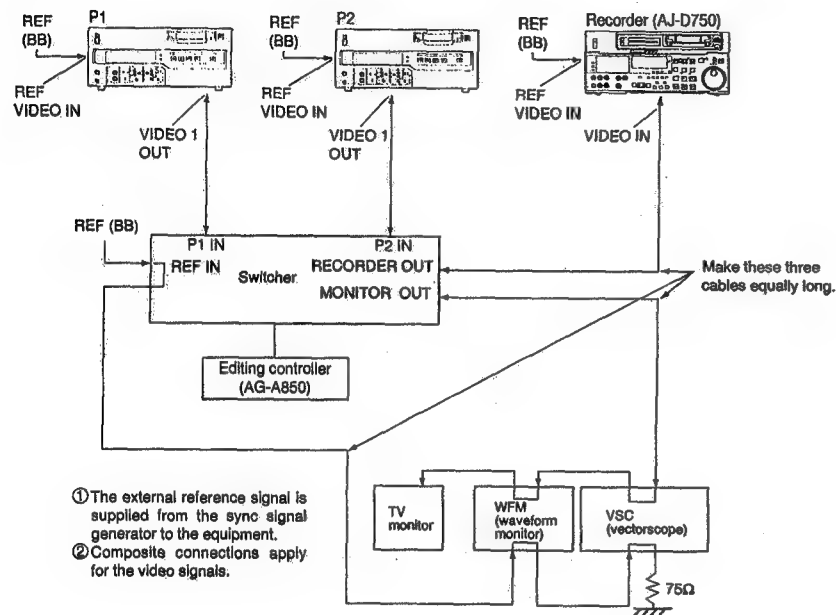


For further details, refer to the Operating Instructions of the AG-A850 editing controller (optional accessory).

## Internal encoder adjustments

In order to ensure error-free and accurate editing during AB roll editing (a method of editing using two source VTRs) using an editor, the ENCODER OUT controls must be adjusted after the system has been connected. (These controls must be re-adjusted each time the connecting cables are replaced or the connections are changed.)

Connect the equipment as shown in the figure below.



If a waveform monitor and vectorscope are not available, correct any color shifting while actually monitoring the picture on the TV monitor.

- 1 Check the connections. (see previous page.)
- 2 Select [OFF] on ENCODER SEL at the set up menu. (See page 27.) Select [ON] to operate the internal encoder externally.
- 3 Adjust the SYSTEM PHASE.
  - 3-1 On the P1 VTR, play back a cassette tape on which standard color bar signals have been recorded.
  - 3-2 Adjust P1 VTR SYS PHASE.
 

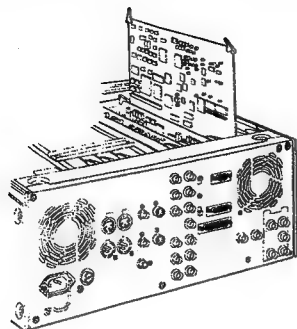
Adjust the controls to the following with the waveform monitor (WFM).

    - 1) Expand WFM 0.1  $\mu$ s on the INT mode.
    - 2) Check the H SYNC position.
    - 3) In this status, select EXT mode for the WFM.
    - 4) In EXT mode, adjust the SYSTEM PHASE to H, SC COARSE, SC FINE, in this order, at the set up menu to set H SYNC to its previous position.

■ Waveform on waveform monitor

(Observe the SYNC fall.)
- 4 Adjust the connected P2 VTR in the same way.

## Printed circuit board



Printed circuit board	Abbr. name	Full name	Function	Factory setting
F8 board: ADDA-CUE	SW1	Audio Input Impedance SW	This sets the CH1 audio input impedance. HIGH/600Ω	HIGH
	SW61	Audio Input Impedance SW	This sets the CH2 audio input impedance. HIGH/600Ω	HIGH
F4 board	SW940	Component Pa/Pn Output level selector	This sets the component Pa/Pn output level when connecting with the editor. MII : MII level BETA : B-CAM level	BETA

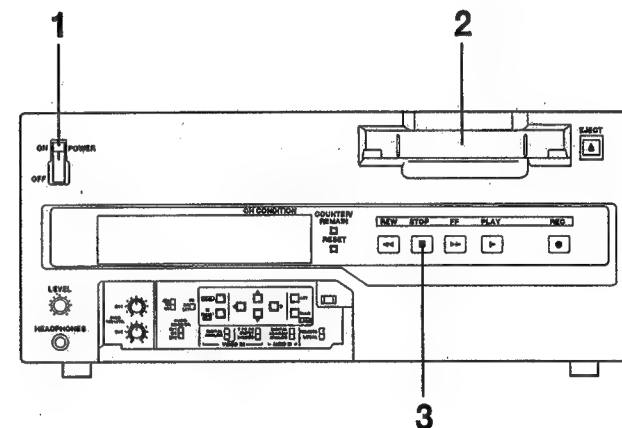
<Note>  
Component Pa/Pn input levels are selected at No. 600 in the setup menu.

**CAUTION:**  
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER CHANGE OF SWITCH SETTING INSIDE THE UNIT TO AUTHORIZED SERVICE PERSONNEL.

## Switching on the power/inserting the cassette

Before starting to operate the unit, check whether the equipment has been connected properly.

- 1 Turn on the power.  
Check that the error indicator is not displayed on the counter.
- 2 Insert the cassette tape.  
Insert the tape at its proper position without force. (See page 14.)
- 3 Check that the STOP lamp is on.  
When the tape is inserted, the drum rotates automatically, the tape is loaded and the unit goes into the stop mode.

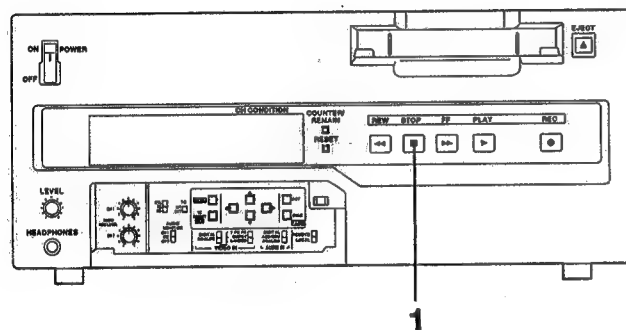


## STOP mode

- 1 When the STOP button is pressed, the unit goes into the stop mode. The STOP lamp lights and the tape stops traveling.
  - In order to protect the tape, the unit goes into the standby OFF mode after the time set by setting menu No.400 (STILL TIMER) has elapsed. When the STOP, REW, FF or PLAY button is pressed, the unit will go into the appropriate mode.

### Still Timer Setting

In order to protect the tape and VTR helical heads, it is recommended that the Still Timer be set for automatic tape protection mode in 30 seconds or under. Page 32 indicates the settings for menu item 400-Still Timer set. Still Timer settings 4 and below will best protect the tape.



## Recording

- 1 Set the accidental erasure prevention tab on the cassette tape to the "recording" position and insert the tape.
- 2 Press the STOP button to place the unit in the stop mode.
- 3 Check that the REC INHIBIT lamp is off.
- 4 Select the video and audio input signals and adjust their levels.
  - 4-1 Selecting video/audio input signals
    - 1 Connect the signals to be recorded.
    - 2 Select the input signals using the INPUT SELECT switches on the front panel.
  - 4-2 Adjusting the audio level
 

Adjust the audio input signal levels of the analog audio CH1/CH2 signals. When set at the center position, audio signals will be recorded at the proper level.
- 5 Press the PLAY button while holding down the REC. button. The REC and PLAY lamps light, and recording commences.
- 6 To end the recording, press the STOP button. Recording is ended, and the unit goes into the stop mode.

### <Notes>

- Check that the SERVO lamp is lighted during recording. If it flashes or if it is off, the images played back will be disturbed.
- The sound and pictures to be recorded are offset from the playback pictures by at least 5 frames and recorded. When, for instance, recording sound at a particular timing while the playback pictures are monitored, the sound to be edited will be recorded at a position which is offset from the playback pictures by 5 frames.

## Playback

- 1 Insert the cassette tape, and place the unit in the stop mode.
- 2 Press the PLAY button.  
Regular playback is now commenced.
- 3 To end playback, press the STOP button.  
The VTR now goes into the stop mode.

### <Note>

- Check that the SERVO lamp is lighted during playback. If it flashes or if it is off, the images played back will be disturbed.

## Setup (default settings)

The unit's major settings are performed by making selections on menus. The setting menus appear on the TV monitor when the TV monitor and VIDEO OUT 3 connector in the unit's connector area are hooked up.

### Changing the settings

- 1 Press the MENU button.  
The setup menu appears on the TV monitor and setup menu No. appears on the counter display. (If the setup has already been performed, the screen showing the changes made last will appear.)
- 2 Press the cursor buttons (▲, ▼) and select the item to be set.  
The cursor (→) on the menu screen moves and the item No. on the display flashes.  
• When the ▼ button is pressed, the item No. is incremented for 001 → 002 → 003 → 004 → and so on; when the ▲ button is pressed, the item No. is decremented.
- 3 Press the cursor buttons (◀, ▶) at the position where the change is to be made.  
The menu screen and display setting No. now flashes.  
When the ▶ button is pressed, the setting No. is incremented; when the ◀ button is pressed, it is decremented.
- 4 Repeat steps 2 and 3 to change other items.
- 5 Press the SET button.  
The changes are now stored in the memory.  
• To return the items to the settings established before the changes were made, press the MENU button without pressing the SET button.

To return the setup settings to the factory (initial) settings, press the RESET button while the menu is displayed.

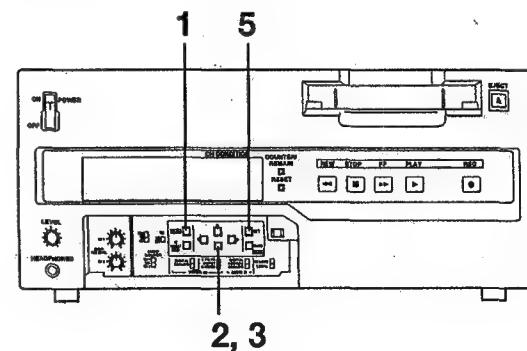
The following message is displayed.

SETUP-MENU INIT SET  
YES<PLAY>/NO<STOP>

When the PLAY button is pressed, the factory settings are restored.

### <Notes>

- When the RESET button is pressed to return to the factory settings, the factory settings are restored only for the user file currently being used and other user files are not affected.
- The changed SYSTEM menu contents are stored in the memory even if the MENU button is pressed.

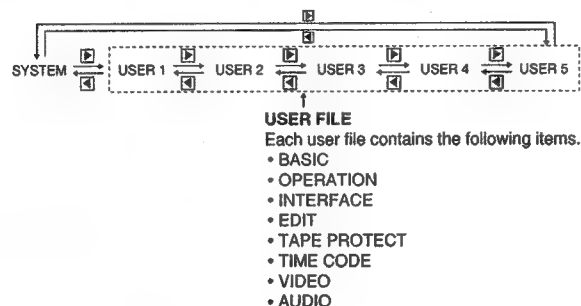


## Setup (setting) menus

This unit can store up to 5 user files (user 1 to user 5) containing different menu settings, and these files can be selected and used.

### Changing the file

- 1 Press the MENU button.
- 2 Hold down the FILE button and press the cursor button  $\blacktriangleright$  to switch to the next user file.  
Hold down the FILE button and press the cursor button  $\blacktriangleleft$  to switch to the previous user file.



- 3 Repeat the operation in step 2 to select the user file to be used and press the SET button. The user file is changed and stored in the memory.

#### <Note>

- SYSTEM menu items are not included in user files 1 to 5.  
Therefore, after selecting the user file, switch to the SYSTEM file and set the SYSTEM menu items.

## SYSTEM menu

### <SYSTEM>

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
00	SYS SC COAR.	0000 0001 0002 0003	0 90 180 270	System phase rough adjustment: 90° units  <Note> When shipped from the factory, the setting values do not change even if setting operations are performed.
01	SYS SC FINE	0000 : 0127 : 0255	-127 : 0 : 127	System phase fine adjustment; Total variable range: ±90° or more →: advanced ←: delayed
02	SYS H	0000 : 0112 : 0224	-112 : 0 : 112	System phase adjustment: ±2 μsec (SC cycle phase) →: Advanced ←: Delayed <Note> When shipped from the factory, the setting values do not change even if setting operations are performed.
03	ENCODER SEL	0000 0001	OFF ON	This selects whether the ENCODER connector functions. 0: Does not functions. 1: Functions.
10	AV PHASE	0000 : 0128 : 0255	-128 : 0 : 127	This adjusts the audio output phase with respect to the video output: 20.8 μs steps →: The audio output phase is advanced with respect to the video output. ←: The audio output phase is delayed with respect to the video output.

The underline on the setting item denotes the initial setting.

## USER menu

### <BASIC>

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
000	P-ROLL TIME	0000 : 0005 : 0015	0S. : 5S : 15S	This sets the preroll time which can be set from 0 to 15 seconds in 1-second increments. <Note> In the case of AJ-D840, the unit will not operate if the preroll time is set to 0 seconds when the unit is set to automatic editing (PREVIEW, AUTO EDIT COMMAND) from an external controller.
001	CHARA. H-POS	0000 : 0005 : 0012	0 : 6 : 12	This sets the position of the characters on the horizontal plane for the time code and other super displays output to the VIDEO OUT 3 connector. <Note> 1. When setting this item, the DISPLAY SEL status is output to VIDEO 3 even if SUPER OFF has been set. However, when the menu is exited, operation complies with the SUPER OFF/ON setting. Also, CHARA TYPE is output to VIDEO 3 according to the status set in the menu. 2. When the DISPLAY SEL setting causes characters to extend beyond the edges of the screen, the setting value is changed so that the characters are automatically displayed in a position on the screen.

The underline on the setting item denotes the initial setting.

## Setup (setting) menus

### USER menu

#### <BASIC> (continued)

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
002	CHARA V-POS	0000 : : 0018 : : 0022	0 : : 18 : : 22	This sets the position of the characters on the vertical plane for the time code and other super displays output to the VIDEO OUT 3 connector. -<Note> 1. When setting this item, the DISPLAY SEL status is output to VIDEO 3 even if SUPER OFF has been set. However, when the menu is exited, operation complies with the SUPER OFF/ON setting. Also, CHARA TYPE is output to VIDEO 3 according to the status set in the menu. 2. When the DISPLAY SEL setting causes characters to extend beyond the edges of the screen, the setting value is changed so that the characters are automatically displayed in a position on the screen.
003	DISPLAY SEL	0000 0001 0002	TIME T&STA T&S&M	This selects what information is to be provided by the time code and other super displays output to the VIDEO 3 connector. 0: Time only. 1: Time and status. 2: Time, status and mode. -<Note> The mode display is DVCPRO mode display during DVCPRO format and DV mode display during DV format.
004	LOCAL ENA	0000 0001 0002	DIS ST&EJ ENA	This selects the buttons which can be operated on the front panel when the REMOTE/LOCAL switch has been set to REMOTE. 0: No buttons can be operated. 1: Only the STOP and EJECT buttons can be operated. 2: All buttons can be operated.
005	TAPE TIMER	0000 0001	±12h 24h	This selects the 12 or 24 hour display for the CTL counter. 0: 12 hour display 1: 24 hour display
006	SUPER	0000 0001	OFF ON	This selects whether the time code and other super display which are output to the VIDEO OUT 3 connector is to shown. 0: Not shown. 1: Shown.
007	CHARA TYPE	0000 0001	WHITE W/OUT	This selects the display type for the super display output to the VIDEO OUT 3 connector as well as for displays such as the setting menu, etc. 0: White characters against a black background. 1: White characters with a black border.

The underline on the setting item denotes the initial setting.

### USER menu

#### <OPERATION>

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
101	SHTL MAX	0000 0001 0002	×16 ×32 ×60	This sets the maximum speed for shuttle operations. 0: 16× normal speed 1: 32× normal speed 2: 60× normal speed -<Note> During DV format, the maximum speed is 32× normal speed even when 60× is selected.

The underline on the setting item denotes the initial setting.

### USER menu

#### <OPERATION> (continued)

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
102	FF. REW MAX	0000 0001 0002	×32 ×60 ×100	This sets the maximum speed for FF and REW operations. 0: 32× normal speed 1: 60× normal speed 2: 100× normal speed -<Note> During DV format, the maximum speed is 32× normal speed regardless of this setting.
103	AUDIO MUTE	0000 0001	OFF ON	This sets the status until the audio signal is output when operation switches from the stop or search modes to the play mode. 0: The time until the audio is output is shortened. 1: The audio is output after the status stabilizes. -<Note> When set to 0 (OFF), the sound in the initially output part is incomplete. Therefore, this setting is not recommended for broadcasts.
104	REF ALARM	0000 0001	OFF ON	This selects whether to warn the operator when the REF:VIDEO signal has not been connected. 0: Warning is not given. 1: Warning is given by the flashing STOP lamp.
106	PLAY DELAY	0000 : : 0015	0 : : 15	This set the play delay time in frame increments.
107	CAP. LOCK	0000 0001	2F 4F	This selects the capstan lock mode. 0: 2F mode 1: 4F mode
108	FORMAT SEL	0000 0001	DVCPRO DV	This selects the format which applies when the general purpose cassette is used. After selection, this status becomes effective only when the cassette is inserted after ejection. 0: DVCPRO mode 1: DV mode -<Notes> Take care not to insert a tape whose format is the reverse of the one selected since the following trouble as well as playback trouble will occur. 1. A recording operation is initiated if a DV cassette is inserted when the DVCPRO mode is selected. No guarantees can be made for performance, etc. Conversely, no recording can be conducted if a DVCPRO cassette is inserted when the DV mode is selected. 2. The REMAIN display loses its accuracy. 3. The accuracy of the slowdown position near the start and end of the tape is lost.
109	EJECT EE SEL	0000 0001	EE BLACK	This selects whether EE mode or BLACK is to be used during EJECT status. 0: EE mode 1: Video blackens, audio mutes.
110	F/R EE SEL	0000 0001	EE TAPE	This selects whether EE mode or playback mode is to be used during FF/REW operations. 0: EE mode 1: Playback mode
111	STOP EE SEL	0000 0001	EE TAPE	This selects whether EE mode or playback mode is to be used during stop mode. 0: EE mode 1: Playback mode -<Note> The STAND-BY OFF mode complies with the above selection. When TAPE is selected, however, the video becomes grey.

The underline on the setting item denotes the initial setting.



## Setup (setting) menus

### USER menu

#### <INTERFACE>

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
201	9P SEL	0000 <u>0001</u>	OFF ON	This selects whether the 9P connector functions when the REMOTE/LOCAL switch has been set to REMOTE. 0: Do not function 1: Function
202	ID SEL	0000 <u>0001</u>	OTHER DVCPRO	This selects the ID information which is returned to the controller. 0: 20 25H 1: DVCPRO's own ID is returned (F0 33H).

The underline on the setting item denotes the initial setting.

### USER menu

#### <EDIT>

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
300	VAR RANGE	0000 <u>0001</u>	- 0.43 - 1 - 4 - +4	This sets the VAR speed range. 0: The tape is played in slow motion at a speed ranging from - 0.43× to +1× normal speed. 1: The tape is played in the ±4.1× normal speed range. «Note» Phase synchronization from the editing controller is no longer possible once this item has been set to "0". For DV format: When using the dial on the front panel, playback is always performed at - 0.5 to +1× normal speed regardless of the menu setting. When using the 9P (RS-232C), when 0 is selected, playback is performed at - 0.5 to +1× normal speed. When 1 is selected, playback is performed at - 3.1 to +3.1× normal speed.
303	STD/ NON-STD	0000 0001 0002	<u>AUTO</u> STD N-STD	This selects STD or NON-STD in accordance with the composite input signal. 0: Standard/non-standard signals are automatically identified and processed. 1: Standard signals are processed. (Forced STD) 2: Non-standard signals are processed. (Forced NON-STD)
304	SERVO REF	0000 <u>0001</u>	<u>AUTO</u> EXT	This selects the video signal processing. 0: Servo is synchronized with the input signal during recording and editing, or with the REF signal during playback. 1: Servo is synchronized at all times with the REF signal.

The underline on the setting item denotes the initial setting.

### USER menu

#### <EDIT> (continued)

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
305*	EDIT RPLCE1	0000 <u>0001</u> 0002 0003	N-DEF CH1 CH2 CH1+2	This sets the channel assignments for the controller's analog audio preset when editing the digital audio of the VTR using a controller which does not have a digital audio edit preset control function. This selects the channel concerned when the VTR CH1 edit preset is set in compliance with the ON or OFF presetting for the analog audio signals designated by the controller. 0: Not set. 1: Compliance with analog CH1 edit preset. 2: Compliance with analog CH2 edit preset. 3: Compliance with either analog CH1 or CH2 edit preset.
306*	EDIT RPLCE2	0000 0001 <u>0002</u> 0003	N-DEF CH1 CH2 CH1+2	This sets the channel assignments for the controller's analog audio preset when editing the digital audio of the VTR using a controller which does not have a digital audio edit preset control function. This selects the channel concerned when the VTR CH2 edit preset is set in compliance with the ON or OFF presetting for the analog audio signals designated by the controller. 0: Not set. 1: Compliance with analog CH1 edit preset. 2: Compliance with analog CH2 edit preset. 3: Compliance with either analog CH1 or CH2 edit preset.
307*	EDIT RPLCEC	0000 0001 0002 0003	N-DEF CH1 CH2 CH1+2	This sets the channel assignments for the controller's analog audio preset when editing the digital audio of the VTR using a controller which does not have a digital audio edit preset control function. This selects the channel concerned when the VTR CUE edit preset is set in compliance with the ON or OFF presetting for the analog audio signals designated by the editor or controller. 0: Not set. 1: Compliance with analog CH1 edit preset. 2: Compliance with analog CH2 edit preset. 3: Compliance with either analog CH1 or CH2 edit preset.
309*	AUD EDIT IN	0000 <u>0001</u>	CUT <u>FADE</u>	This selects the connection method for the digital audio edit IN point. 0: Cut processing 1: V Fade processing
310*	AUD EDIT OUT	0000 <u>0001</u>	CUT <u>FADE</u>	This selects the connection method for the digital audio edit OUT point. 0: Cut processing 1: V Fade processing
313	AFTER CUE-UP	0000 <u>0001</u>	<u>STOP</u> STILL	This selects the mode after cue-up operation is complete. 0: STOP mode 1: SHTL STILL mode

The underline on the setting item denotes the initial setting.

\* The Setup menu can only be displayed for the model AJ-D650.

# USER menu

## <TAPE PROTECT>

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
400	STILL TIMER	0000	0.5s	This selects the time to be taken until the unit goes into the tape protection mode when it is left standing in the stop mode. (Unit: s = second, min = minute)  <Note> With the DV format, the maximum time which can be set is 10s even when a setting above 10s has been selected. The selection screen, however, will operate for up to 2 minutes.
		0001	5s	
		0002	10s	
		0003	20s	
		0004	30s	
		0005	40s	
		0006	50s	
		0007	1min	
		<u>0008</u>	<u>2min</u>	
401	SRC PROTECT	<u>0000</u>	STEP	This selects the operation during the tape protection mode when the unit is left standing in the still status in No. 400 protection mode. 0: STEP FWD. 1: HALF LOADING. <Note> When STEP FWD is selected, the unit automatically goes into the HALF LOADING mode when the total time for which the unit is left standing in the still status reaches 30 minutes (DVCPRO) or 1 minute (DV).
		0001	HALF	

The underline on the setting item denotes the initial setting.

### <Note>

In order to protect the tape and VTR helical heads, it is recommended that the Still Timer be set for automatic tape protection mode in 30 seconds or under.

# Setup (setting) menus

## USER menu

### <TIME CODE>

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
500	VITC POS-1	0000	10L	This sets the position where the VITC signal is to be inserted. (The same line as for VITC POS-2 in 501 cannot be selected.)
		0001	11L	
		0002	12L	
		0003	13L	
		0004	14L	
		0005	15L	
		<u>0006</u>	<u>16L</u>	
		0007	17L	
		0008	18L	
		0009	19L	
501	VITC POS-2	0000	10L	This sets the position where the VITC signal is to be inserted. (The same line as for VITC POS-1 in 500 cannot be selected.)
		0001	11L	
		0002	12L	
		0003	13L	
		0004	14L	
		0005	15L	
		0006	16L	
		0007	17L	
		<u>0008</u>	<u>18L</u>	
		0009	19L	
502	VITC BLANK	0000	BLANK	This selects whether to output the VITC data to the positions selected by VITC POS-1 in 500 and VITC POS-2 in 501. 0: Data is not output. 1: Data is output.
		<u>0001</u>	<u>THRU</u>	
503	TCG REGEN	0000	TC&UB	This selects the signal to be regenerated when the time code generator (TCG) in the REGEN mode. 0: Both the time code and user bit are regenerated. 1: Only the time code is regenerated. 2: Only the user bit is regenerated.
		0001	TC	
		0002	UB	
504	REGEN MODE	0000	OFF	This selects whether values used in the internal time code generator are preset from the front panel or remote controller or synchronized with time code values read from the tape. 0: Values are preset from the front panel or remote controller. (PRESET) 1: Values are synchronized with time code values read from the tape. (REGEN)  <Note> When "1" is selected, values selected at set up menu No.503 (TCG REGEN) are regenerated.
		0001	ON	
505	EXT TC SEL	0000	LTC	This selects the time code to be used when an external time code is to be used. 0: The LTC of the TIME CODE IN connector is used. 1: The video signal VITC is used.
		<u>0001</u>	<u>VITC</u>	

The underline on the setting item denotes the initial setting.

## USER menu

## &lt;TIME CODE&gt; (continued)

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
506	BINARY GP	0000 0001 0002 0003 0004 0005 0006 0007	000 001 010 011 100 101 110 111	This sets the usage status of the user bit of the time code generated by the TCG. 0: NOT SPECIFIED (character set not specified) 1: ISO CHARACTER (8 bits character set based on ISO646, ISO2022) 2: UNASSIGNED 1 (undefined) 3: UNASSIGNED 2 (undefined) 4: UNASSIGNED 3 (undefined) 5: PAGE/LINE 6: UNASSIGNED 4 (undefined) 7: UNASSIGNED 5 (undefined)
507	PHASE CORR	0000 0001	OFF ON	This selects whether to control the phase correction of the LTC generated by the TCG. 0: Phase correction control is not performed. 1: Phase correction control is performed.
508	TCG CF FLAG	0000 0001	OFF ON	This selects whether the CF flag of the TCG is to ON. 0: CF flag is OFF. 1: CF flag is ON.
509	DF MODE	0000 0001	DF NDF	This selects the DF/NDF mode for CTL and TCG. 0: Drop frame mode. 1: Non-drop frame mode. No.509 is valid when the CONTROL is LOCAL or LOCAL ENA of item 004 to "ENA".
510	RUN MODE	0000 0001	REC FREE	This selects the time code generator run mode. 0: Generator runs only during recording. 1: Generator runs during usual operation.  <Note> Even if "0" is selected, the time code generator runs during usual operation when "1" is selected at the setting menu No.504 (REGEN MODE).

The underline on the setting item denotes the initial setting.

## USER menu

## &lt;VIDEO&gt;

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
600	Pa/Pa IN LV	0000 0001	MIL B-CAM	This selects the component input signal level. 0: MIL level. 1: B cam level.
601	INT BB SIG	0000 0001	OFF BB	This selects whether to generate the internal black burst signal. 0: Signal is not generated. 1: Signal is generated.
602	INPUT C KILL	0000 0001	B/W AUTO	This selects color killer processing for the video input signals. 0: The signals are forcibly processed as B/W signals. 1: The signals are automatically processed.

The underline on the setting item denotes the initial setting.

## Setup (setting) menus

## USER menu

## &lt;VIDEO&gt; (continued)

Item		Setting		Description
No.	Superimposed display	No.	Superimposed display	
604	V-MUTE SEL	0000 0001	N-MUTE LOW_RF	This selects whether the video output signal is to be muted in the event of a low RF or disengaged servo lock during playback. 0: No muting (picture freezes). 1: Muting (picture turns grey).
605	CC (F1) BLANK	0000 0001	BLANK THRU	This selects ON or OFF for the closed capture signal in the first field. 0: Forced blanking performed. 1: Blanking not performed.
606	CC (F2) BLANK	0000 0001	BLANK THRU	This selects ON or OFF for the closed capture signal in the second field. 0: Forced blanking performed. 1: Blanking not performed.
608	FREEZE SEL	0000 0001	FIELD FRAME	This selects the freeze mode for still pictures. 0: Field freeze 1: Frame freeze  <Note> When frame freeze is selected, the frame freeze mode is established even during slow motion.
609	IN FRM DET	0000 0001	FORCED AUTO	This selects the conditions under which frame detection is to be performed when signals are input. 0: Frame detection is performed at all times. 1: Frame detection is prohibited only when non-standard signals are input.
611	EDH	0000 0001	OFF ON	This selects whether to superimpose EDH onto the serial output signals. 0: EDH is not superimposed. 1: EDH is superimposed. • This item setting is valid when the optional serial interface board has been installed.
612	WIDE SELECT	0000 0001 0002	AUTO WIDE NORMAL	This selects the operation to be conducted in response to the WIDE information. 0: During recording, if the Y/C input signals contain WIDE information, the WIDE information is recorded on the tape. During playback, if WIDE information is on the tape, it is added to the Y/C output signals. 1: During recording, the WIDE information is recorded on the tape regardless of whether the Y/C input signals contain the WIDE information. During playback, the WIDE information is added to the Y/C output signals regardless of whether the WIDE information is on the tape. → Forced WIDE ON 2: During recording, the WIDE information is not recorded on the tape regardless of whether the Y/C input signals contain the WIDE information. During playback, the WIDE information is not added to the Y/C output signals regardless of whether the WIDE information is on the tape. → Forced WIDE OFF  <Note> This item is effective during recording at the start of the recording and during playback at all times. Therefore, when its setting has been changed during recording, the MENU contents will be changed but no change will occur in the actual operation.

The underline on the setting item denotes the initial setting.

# USER menu

## <AUDIO>

No.	Item	Setting		Description
		No.	Superimposed display	
700	CH1 IN LV	0000 0001 0002 0003	4dB 0dB -20dB -60dB	This selects the audio input (CH1) reference level switching.
701	CH2 IN LV	0000 0001 0002 0003	4dB 0dB -20dB -60dB	This selects the audio input (CH2) reference level switching.
703	CH1 OUT LV	0000 0001 0002	4dB 0dB -20dB	This selects the audio output (CH1) reference level switching.
704	CH2 OUT LV	0000 0001 0002	4dB 0dB -20dB	This selects the audio output (CH2) reference level switching.
713	MONI CH SEL	0000 0001 0002 0003	AUTO 1 AUTO 2 AUTO 3 AUTO 4	This selects the monitor output. 0: In the tape speed range of $-0.43\times$ ( $-0.5\times$ ) to $\pm 1\times$ normal speed, PCM AUDIO is output; at all other times, CUE is automatically output. 1: In the PLAY mode, PCM AUDIO is output; at all other times, CUE is automatically output. 2: In the PLAY mode, PCM AUDIO is output; in the tape speed range of $-0.43\times$ ( $-0.5\times$ ) to $\pm 1\times$ normal speed, QUICK PCM AUDIO is output; at all other times, CUE is automatically output. 3: In the tape speed range of $-0.2\times$ to $+0.2\times$ normal speed, QUICK PCM AUDIO is output; in the tape speed ranges of $-1\times$ to $-0.2\times$ and $+0.2\times$ to $+1\times$ (excluding $-0.2\times$ and $+0.2\times$ ) normal speed, PCM AUDIO is output; at all other times, CUE is automatically output.  <Notes> 1. The tape speed figures given above in parentheses apply when DV format tapes are used. 2. PCM AUDIO complies with the AUDIO MONITOR SELECT SW setting and is set to CH1, CH2 or MIX (CH1+CH2). 3. "QUICK PCM AUDIO" is a playback mode in which priority is given to aligning the video and audio phases during slow-motion playback. In this mode, the sound at $1\times$ normal speed is played back one frame at a time each time the video frame is updated. (During normal PCM AUDIO slow-motion playback, the sound is stretched out so that it is played back after the pictures.)
714	REC CH1	0000 0001 0002	CH1 CH2 CH1+2	This selects the input signal to be recorded on the audio CH1 track. 0: Audio input CH1 signal. 1: Audio input CH2 signal. 2: Mixed audio input CH1 and CH2 signal.
715	REC CH2	0000 0001 0002	CH1 CH2 CH1+2	This selects the input signal to be recorded on the audio CH2 track. 0: Audio input CH1 signal. 1: Audio input CH2 signal. 2: Mixed audio input CH1 and CH2 signal.

The underline on the setting item denotes the initial setting.

# USER menu

## <AUDIO> (continued)

No.	Item	Setting		Description
		No.	Superimposed display	
716	REC CUE	0000 0001 0002	CH1 CH2 CH1+2	This selects the input signal recorded in CUE. 0: The signal selected by SETUP-MENU No.714 is recorded on CH1. 1: The signal selected by SETUP-MENU No.715 is recorded on CH2. 2: The signal selected by SETUP-MENU No.714 and No.715 are mixed and recorded on CH1 and CH2.
718	DV OUTPUT	0000 0001 0002	ST1 ST2 ST1+2	This selects the AUDIO CH1 and CH2 output signals during DV format playback. 0: The CH1 track signals are output to CH1 and the CH2 track signals to CH2. (Only the sound during shooting is output.) 1: The CH3 track signals are output to CH1 and the CH4 track signals to CH2. (Only the audio dubbing sound is output.) 2: The mixed CH1 and CH3 track signals are output to CH1 and the mixed CH2 and CH4 track signals to CH2. (The sound during shooting and audio dubbing sound are output simultaneously.)  <Note> This item setting is valid only when the tape recorded on the four channels of the DV format is played back.
719	PB FADE	0000 0001 0002	AUTO CUT FADE	This selects the processing method for the audio edit points (IN point, OUT point) during playback. 0: According to the status during recording. (Setup menus No.308, 310) 1: Forced CUT 2: Forced FADE
720	EMBEDDED AUD	0000 0001	OFF ON	This selects whether to superimpose the audio data onto the serial output. 0: Data is not superimposed. 1: Data is superimposed.  <Note> This item is valid when the optional serial interface board has been installed.
721	LINE CH SEL	0000 0001	PCM AUTO	This selects the audio output (LINE OUT). 0: PCM AUDIO or QUICK PCM AUDIO is output. 1: Whatever is selected by SETUP-MENU No.713 (MONI CH SEL) output.  <Note> The PCM AUDIO or QUICK PCM AUDIO output is not affected by the AUDIO MONITOR SELECT SW, and CH1 and CH2 are output independently.
722	INT SG	0000 0001	OFF ON	This selects whether the internal signal is to be used for the audio input signal. 0: The internal signal is not selected. 1: The internal signal is selected.  <Note> The internal signal has a frequency of 1 kHz.

The underline on the setting item denotes the initial setting.

## Time code/user bit

### Time code

The time code is used when the time code signal generated by the time code generator (time code signal generator) is to be recorded on the tape, its values are to be read by the time code reader (time code signal reader), and the absolute position of the tape is to be displayed in increments of hours, minutes, seconds and frames.

The time code is written in the sub-code area (data area) of the helical track. This enables insert editing to be conducted independently using the time code alone. In addition, the VTR's playback speed can be read from the stop mode to slow-motion playback up to high-speed play (approx. 100X normal speed).

The time code values are indicated using the display and superimpose functions.

TC 00:07:04:24  
 ↑    ↑    ↑    ↑  
 Hours Minutes Seconds Frames

#### <Note>

Time code reader values normally appear on the superimposed display.

Values appear as shown below on the front display.

Playback: Time code reader values

REC, EE: Time code generator values

Time code generator values can be checked when the REC button is pressed even during playback.

### User bit

"User bit" refers to the 32-bit (8-digit) data frame among the time code signals which has been released to users. It enables operator numbers values to be recorded.

The alphanumeric characters which can be used for the user bit are the figures 0 to 9 and the letters A to F.

## Recording internal/external time codes

### 1. Setting the internal time code

- 1 Place the VTR in the stop mode.
- 2 Set the CTL/TC/UB switch to TC.
- 3 Set the TC INT/EXT switch to INT. (Internal time code selected)
- 4 Set the RUN MODE. (setup menu No. 510)  
**REC (RUN):** The time code runs at the same time as the recording proceeds.  
**FREE (RUN):** The time code runs in the same way as the time regardless of the VTR's operation.
- 5 Set the REGEN MODE. (setup menu No. 504)  
**OFF (REGEN):** Continuity is maintained with the recorded time code before editing. (Detailed settings are also possible using the menu settings. See the menu items below.)  
 Setting menu No. 503 (TCG REGEN)  
**ON (PRESET):** Recording starts from the value set with the TC PRESET button.
- 6 Set the TC PRESET button.  
 Use the TC PRESET button to set the start number of the time code or user bit.
  - 1 The leftmost digit flashes.  
 Align the flashing light and the digit to be set with the cursor buttons (◀, ▶).
  - 2 Press the cursor button ▲ or ▼ to change the value.  
 Each time the button is pressed, the number changes. The setting range is given below.
    - When using the time code and user bit in real time  
 00:00:00:00 – 23:59:59:29
    - User bit  
 00 00 00 00 – FF FF FF FF
  - 3 Repeat steps 1 and 2 to change the value.
  - 4 When the setting of the start number is completed, press the SET button. In the FREE RUN mode, the time code now starts running.
  - 5 Proceed with the recording or editing.

### 2. Setting the external time code (TC switch → EXT)

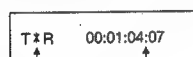
- 1 Place the VTR in the stop mode.
- 2 Set the TC/CTL/UB switch to TC.
- 3 Set the TC INT/EXT switch to EXT. (External time code selected)
- 4 Setting menu No. 505 (EXT TC SEL) can be set as follows.  
**LTC:** The LTC signal input to the TIME CODE IN connector (BNC) on the rear jack panel is recorded as the time code.  
**<Note>** The LTC signal must be synchronized with the video signal.  
**VITC:** The input video signal's VITC is recorded as the time code.

## Reproducing the time code/user bit

- 1 Place the unit in the stop mode.
- 2 Set the CTL/TC/UB switch to TC or UB.  
 TC: The time code is displayed.  
 UB: The user bit is displayed.  
 • When it is no longer possible to read the time code, it is interpolated using the CTL signal.
- 3 Press the PLAY button.  
 Playback now commences, and the time code appears on the display.  
 When setting menu No.006 (SUPER) is ON, the time code value is superimposed onto the video signal from the VIDEO OUT 3 connector.

### <Notes>

- The colon between the seconds and frames changes to a period when the drop frame time code is read.
  - When the time code signal cannot be read, the time code is automatically interpolated by the CTL signal.
- The superimposed appears as shown below.

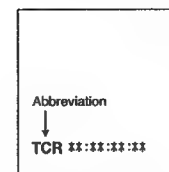


When the time code signal cannot be read, an asterisk ( \* ) is displayed on the superimposed TV monitor.

The colon between the seconds and frames changes to a period during drop frame mode.

## Superimpose screen

The control signals, time code, etc. are displayed using abbreviations.

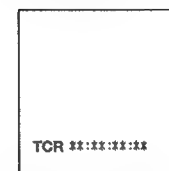


TV monitor

CTL = control signal  
 TCR = TC time code reading  
 UBR = TC user bit reading

### Characters displayed

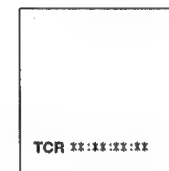
The background of characters superimposed on the display can be changed using menu No.007 (CHARA TYPE).



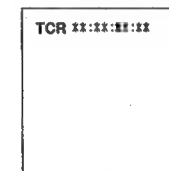
TV monitor

### Display position

The position of the characters superimposed on the display can be changed using setting menus No.001 (CHARA H-POS) and No.002 (CHARA V-POS).



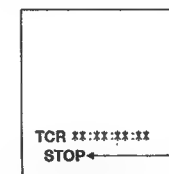
TV monitor



TV monitor

### Operation mode

The VTR's operation mode can also be displayed using setting menu No.003 (DISPLAY SEL).

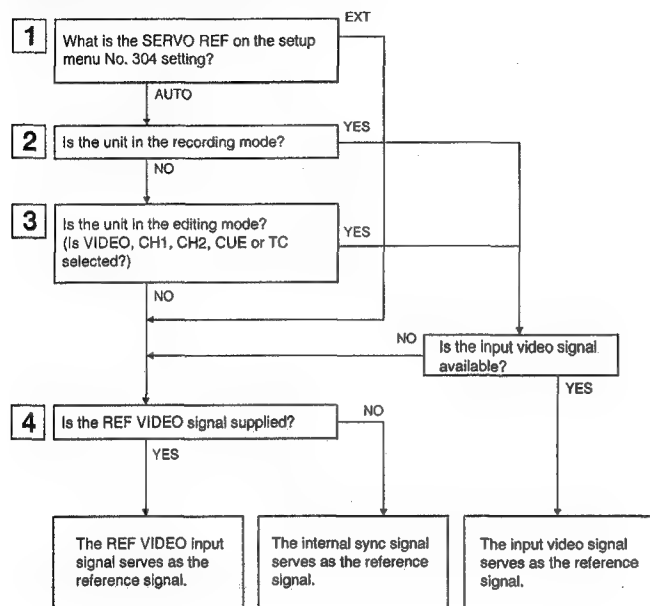


TV monitor

VTR operation mode

## Servo reference

This unit automatically selects the input video signal selected by the INPUT switch, the reference video signal supplied from the REF VIDEO input connector or the internal sync signal as the servo reference signal. When the signal is selected, the unit's mode and servo reference stand in the relationship shown in the flowchart presented below.



## Servo reference setting tables

The servo reference signal is switched as shown in the tables below depending on the servo reference setting, deck mode and what input signal is available. When the mode is transferred to editing or recording/playback, the image may be disturbed and the transfer may be delayed if the references during playback and recording do not match.

### ■ During playback or special playback

SERVO REF on the setup menu No. 304 position	Input signal status		Reference signal (servo reference)
	VIDEO IN signal	REF IN signal	
AUTO	○	○	REF IN signal
	○	×	Internal sync signal
	×	○	REF IN signal
	×	×	Internal sync signal
EXT	○	○	REF IN signal
	○	×	Internal sync signal
	×	○	REF IN signal
	×	×	Internal sync signal

### ■ During recording or editing

SERVO REF on the setup menu No. 304 position	Input signal status		Reference signal (servo reference)
	VIDEO IN signal	REF IN signal	
AUTO	○	○	VIDEO IN signal
	○	×	VIDEO IN signal
	×	○	REF IN signal
	×	×	Internal sync signal
EXT	○	○	REF IN signal
	○	×	Internal sync signal
	×	○	REF IN signal
	×	×	Internal sync signal

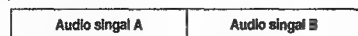
"○" denotes that the signal is supplied; "×" denotes that the signal is not supplied.



## Audio V Fade Function (AJ-D650 only)

When editing tapes, the edit point splicing selection (setting menu No. 309 and 310) information is recorded on the tape. This information is then sensed during playback, and V fade or cut processing is automatically performed for these sections. [However, only when the playback fade selection (No. 719) is AUTO.]

When the edit point splicing selection (setting menu No. 309 and 310) is CUT



Noise may appear at the edit splice.

When the edit point splicing selection (setting menu No. 309 and 310) is FADE



V fade is performed instantaneously to eliminate the noise.

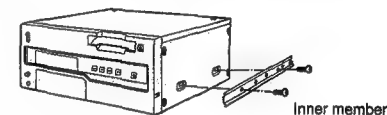
### <Notes>

- When the playback fade selection (No. 719) is CUT, cut processing is performed for all splices.
- When the playback fade selection (No. 719) is FADE, V fade processing is performed for all splices.

## Rack mounting

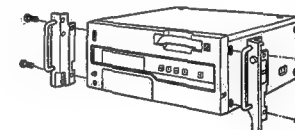
The unit can be mounted into a 19-inch standard rack if the optional rack-mounting adaptors (AJ-MA34HP) are used. For the installation rails, it is recommended that the rail and bracket for 18" length (model number CC3001-99-0400) of SHASSIS TRAK be used. (The complete slide rail and bracket unit is not available from Panasonic) For further details, consult with your dealer.

- 1 Remove the screws on the left and right sides of the unit.
- 2 Use the removed screw to attach the inner members of the slide rails.

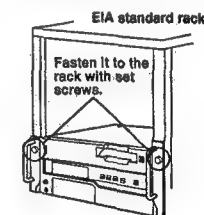


The length of the screws used is subject to restriction. If some of the mounting screws have been lost or misplaced, use screws which are less than 4" long in their place. Use four screws to secure each inner member.

- 3 Attach the outer member brackets to the rack. Check that the height is the same for the left and right brackets.
- 4 Attach the AJ-MA34HP rack-mounting adaptors with included 4 screws.



- 5 Remove the 4 rubber legs from the bottom of the unit, and install the unit in the rack. After the unit has been installed, check that it moves smoothly along the rails.



### <Notes>

- Keep the temperature inside the rack to between +41°F (5°C) and +104°F (40°C).
- Bolt the rack securely to the floor so that it will not topple over when the VTR is drawn out.

## Video head cleaning

This unit has an auto head cleaning function which automatically reduces the dirt on the heads. However, to further increase the unit's reliability, it is recommended that its video heads be cleaned every day.  
Use the cleaning fluid designated by Panasonic.

## Condensation

Condensation occurs due to the same principle involved when droplets of water form on a window pane of a heated room. It occurs when the unit or tape is moved between places where the temperature or humidity varies greatly or when, for instance:

- It is moved to a very humid place full of steam or a room immediately after it has been heated up.
- It is suddenly moved from a cold location to a hot or humid location.

When moving the unit to locations such as these, leave it standing for about 10 minutes rather than switching on the power immediately.

If condensation has formed on or in the unit, the "E-20" code flashes in the counter display and the cassette tape is automatically ejected.

Keep the power supplied and simply wait until the "E-20" code goes off.

## Error messages

### Warning

Error No.	TV monitor display*	Descriptions	VTR operation
<b>E-00*</b> (Err-00)	SERVO NOT LOCKED	Error No. lights when servo disturbances continue for 3 or more seconds during playback, recording or editing.	Continued
<b>E-01*</b> (Err-01)	LOW RF	Error No. lights when envelope levels approx. 1/3 that of normal levels are detected for more than 1 sec. during playback, recording or editing.	Stop
<b>E-10*</b> (Err-10)	FAN STOP	Error No. lights when a fan motor stops operating.	Stop

\* Displays when warning information is checked by pressing the DIAG button.

### AUTO OFF mode

The following error number flashes on the counter display section.

Error No.	Descriptions	VTR operation
<b>E-20</b>	When condensation is detected, the error no. display flashes, and the unit goes into EJECT mode. The drum rotates after the cassette tape is ejected to remove condensation. When the condensation has been removed, the error no. display disappears and the VTR may be used. <Note> 1) The drum rotates as soon as condensation is detected when the unit is in EJECT mode. 2) When condensation is detected while a cassette tape is inserted, drum rotation stops, the cassette tape is ejected and the drum rotation begins again.	EJECT
<b>E-29</b>	The cassette does not move up even when 5 seconds have elapsed since the VTR was transferred to the eject mode.	Stop
<b>E-31</b>	The unloading operation is not completed within 10 seconds.	Stop
<b>E-35</b>	There is no response from the servo microcomputer for 1 or more seconds.	Stop
<b>E-36</b>	Only the servo microcomputer was reset in an instantaneous power failure.	Stop
<b>E-37</b>	The servo microcomputer does not follow the instructions of the system control microcomputer even when 10 seconds have elapsed.	Stop
<b>E-52</b>	After the cassette has been inserted, the tape take-up reel has not wound up the tape while the total tape amount is not detected and while the tape is traveling at or above the normal tape speed in the forward or reverse direction.	Stop
<b>E-53</b>	After the total tape amount has been detected, the amount of tape wound up on the take-up reel and the amount of tape supplied by the supply reel differ to an abnormal extent while the tape is traveling.	Stop
<b>E-55</b>	The tape has not been wound up during unloading.	Stop
<b>E-57</b>	The start/end processing operation is not completed even after 10 or more seconds have elapsed.	Stop
<b>E-59</b>	The cylinder motor speed is abnormally low.	Stop

## Error messages

Error No.	Descriptions	VTR operation
E-60	The cylinder motor speed is abnormally high.	Stop
E-61	The capstan motor speed is abnormally low.	Stop
E-67	The tape-up reel motor speed is abnormally high.	Stop
E-69	An abnormal torque applied to the take-up reel motor is detected.	Stop
E-70	An abnormal torque applied to the supply reel motor is detected or if an abnormal current flowing to the current-sensing resistor is detected.	Stop
E-71	An abnormal tension at the supply side is detected in the capstan mode.	Stop
E-72	An abnormal tension at the supply side is detected in the reel mode.	Stop
E-73	The reel motor at the take-up side is running in the reverse direction.	Stop
E-FF	Tape start and end are detected simultaneously during loading or after loading is completed.	Stop

## Connector signals

### VIDEO IN

SERIAL IN (DIGITAL)	BNC × 2	Active through (Option)
Y, Pb, Pr (ANALOG)	BNC × 3	
VIDEO IN	BNC × 2	Loop-through, 75Ω termination switch provided
REF VIDEO IN	BNC × 2	Loop-through, 75Ω termination switch provided
S1-VIDEO IN	4-pin × 1	

### VIDEO OUT

SERIAL OUT (DIGITAL)	BNC × 3	(Option)
Y, Pb, Pr (ANALOG)	BNC × 3	
VIDEO OUT	BNC × 3	
S1-VIDEO IN	4-pin × 1	

### AUDIO IN

SERIAL IN (DIGITAL)	BNC × 2	(Option)
AUDIO IN (DIGITAL)	BNC × 1	CH1/CH2 AES/EBU format (Option)
AUDIO IN (ANALOG)	XLR × 2	CH1, CH2
TIME CODE IN	BNC × 1	

Pin No.	Signal
1	GND
2	HOT
3	COLD

### AUDIO OUT

SERIAL OUT (DIGITAL)	BNC × 3	(Option)
AUDIO OUT (DIGITAL)	BNC × 1	CH1/CH2 AES/EBU format (Option)
AUDIO OUT (ANALOG)	XLR × 2	CH1, CH2
TIME CODE OUT	BNC × 1	
MONITOR OUT	PHONO × 1	
HEADPHONES (front)	1/4" phone × 1	

## RS-422A REMOTE (9P)

### RMOTE

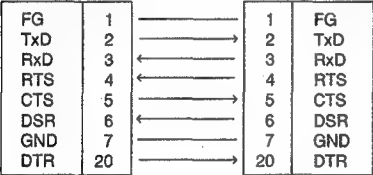
Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1	FRAME GROUND	4	RECEIVE COMMON	7	TRANSMIT B
2	TRANSMIT A	5	—————	8	RECEIVE A
3	RECEIVE B	6	TRANSMIT COMMON	9	FRAME GROUND

Connector signals

RS-232C REMOTE (25-pin D-SUB straight cable supported)

Pin No.	Abbreviation	Circuit	Description
1	FRAME GROUND	Protective ground	Frame ground
2	TxD	Transmitted data	Receives data from the PC.
3	RxD	Received data	Sends data to the PC.
4	RTS	Request to send	Shorted with pin 4.
5	CTS	Clear to send	Shorted with pin 5.
6	DSR	Data set ready	Positive power output after communication enable status
7	GND	Signal ground	Signal ground
20	DTR	Data terminal ready	No processing

• Example of connections with controller (PC) using a 25-pin D-SUB straight cable  
PC end (D-SUB 25 pins)                      VTR end (D-SUB 25 pins)



ENCODER REMOTE (15P)

Pin No.	Signal	Pin No.	Signal	Pin No.	Signal
1.	_____	6	SYSTEM H	11	RET GND
2	SET UP	7	SYS.SC COARSE (2)	12	_____
3	C LEVEL	8	-12V	13	_____
4	GND	9	HUE	14	SYS.SC FINE
5	+12V	10	VIDEO LEVEL	15	SYS.SC COARSE (1)

# SECTION 2

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## SERVICE INFORMATION

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### 1. Comparison of main features between AJ-D650, AJ-D640 and AJ-D750

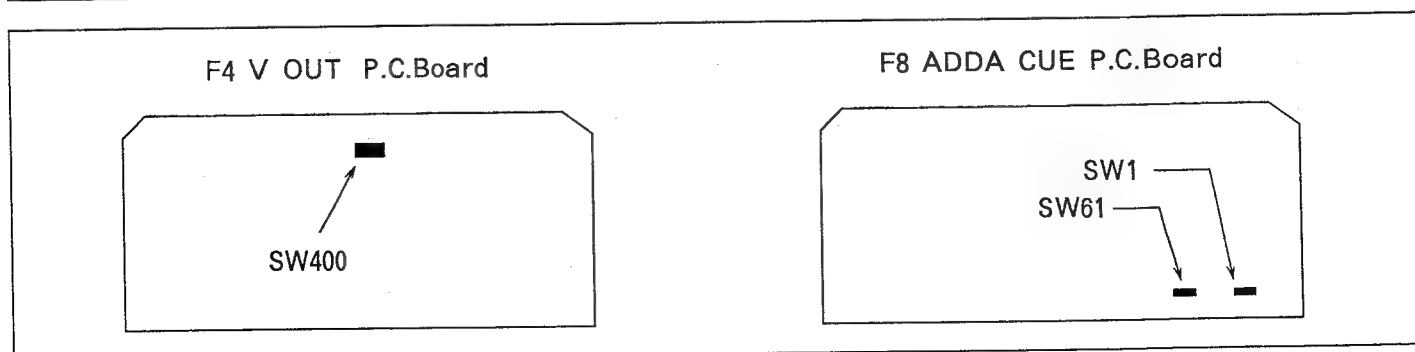
	AJ-D750	AJ-D650	AJ-D640
① Front Panel			
▪Search Dial	○	×	×
▪Buttons concerning Editing	○	×	×
▪Tilttable Mechanism	○	×	×
▪Service DIP SW	○	×	×
② Input/Output			
▪S-VIDEO IN/OUT	×	○	○
▪AUDIO MONITOR connector	XLR	PHONO	PHONO
▪TIME CODE connectors	XLR	BNC	BNC
▪CUE IN/OUT	○	×	×
▪AES/EBU DIF	○	Option (AJ-YA655P)	Option (AJ-YA655P)
③ Editing Function	○	○	×
④ Simultaneous Playback	○	×	×

### 2. Selection of Component P<sub>B</sub>/P<sub>R</sub> Input/Output levels

	Printed circuit board	Ref.No	Setting	Factory setting
Component P <sub>B</sub> /P <sub>R</sub> Output level	F4 V OUT	SW400	MII : MII level BETA : β-CAM level	BETA : β-CAM level
Component P <sub>B</sub> /P <sub>R</sub> Input level	-----	-----	Setup menu No.600 P <sub>B</sub> /P <sub>R</sub> IN LV 0000 : MII level 0001 : β-CAM level	0001 : β-CAM level

### 3. Selection of Audio Input Impedance

	Printed circuit board	Ref.No	Setting	Factory setting
CH1 Audio Input Impedance	F8 ADDA CUE	SW1	HIGH/600Ω	HIGH
CH2 Audio Input Impedance	F8 ADDA CUE	SW61	HIGH/600Ω	HIGH



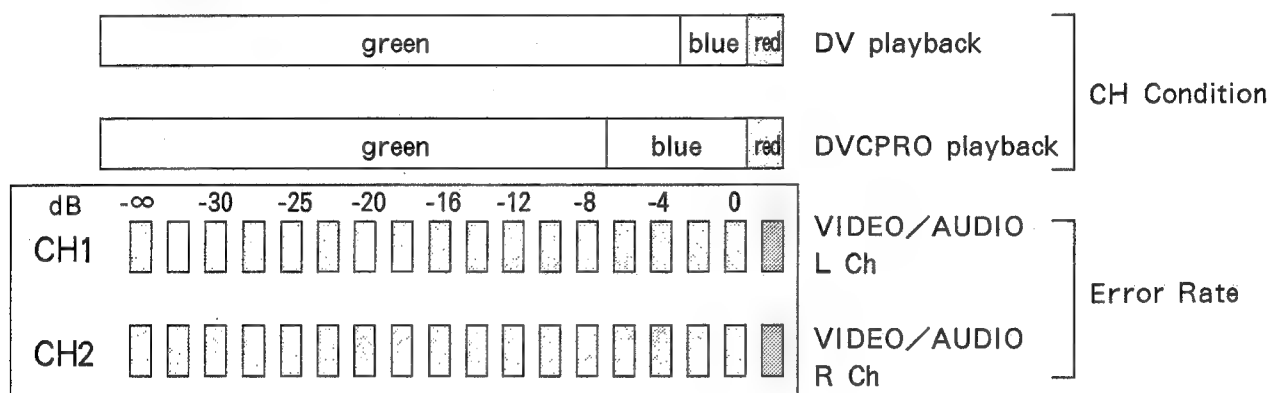
#### 4. Service menu mode

Service test mode is used for adjustment and displaying error rate.

- ① Press the MENU button, then the Setup menu appears on the TV monitor.
- ② Pressing the EJECT button and the STOP button simultaneously, press the MENU button.  
Then the Service menu appears at VIDEO 3 OUT.

#### 5. Error rate display

The error rate is displayed on the AUDIO LEVEL METER in Service menu mode.  
(When enters in Service menu mode, the AUDIO LEVEL METER changes into the error display mode automatically.)



When "CH1" lamp of AUDIO LEVEL METER lights :

The upper portion of Level Meter shows the error rate of "AUDIO L ch".  
The lower portion of Level Meter shows the error rate of "AUDIO R ch".

When "CH2" lamp of AUDIO LEVEL METER lights :

The upper portion of Level Meter shows the error rate of "VIDEO L ch".  
The lower portion of Level Meter shows the error rate of "VIDEO R ch".

Switching between AUDIO error mode and VIDEO error mode is enabled by pressing the DIAG button in the pocket of front panel.



## 6. Hour Meter

- ① When the DIAG button is pressed, VTR information is displayed. When it is pressed again, the original display is restored.
- ② There are two types of VTR information : "HOUR METER" information and "WARNING" information. Switching between these types is enabled by pressing the cursor buttons (◀, ▶).
- ③ Indicated on the "HOUR METER" screen are the power on time (OPERATION), drum rotation time (DRUM RUN), tape travel time (TAPE RUN), loading count (THREADING).  
The HOUR METER informations appear on the screen as indicated below.

* H00	OPERATION	200H
H01	DRUM RUN	50H
H02	TAPE RUN	30H
H03	THREADING	100T
H11	DRUM RUN r	50H
H12	TAPE RUN r	30H
H13	THREADING r	100T
END		

### «How to Reset»

Note : Resettable informatins are DRUM RUN r, TAPE RUN r and THREADING r.

- ① Set the Dip SW501-1 on the F2 SYSCON P.C.Board to ON position.
- ② In EJECT mode, set the cursor "\*" to the information to be reset and press "RESET" button.  
Then the following message appears on the screen for example.

DRUM RUN r OK?  
YES <PLAY> NO <STOP>

When the PLAY button is pressed, the reset function is executed.

When the STOP button is pressed, the reset command is canceled.

## 7. How to confirm the software version

Press the PLAY and STOP buttons simultaneously, then the software version appears on the display of front panel.

If the PLAY and STOP buttons are pressed repeatedly, the display of software changes step by step.

Note : After power ON, the software versions except front don't appear on the display. They appear after pressing the EJECT button.

SY	n 1 0 0	(SYSCON)
SU	n 0 1 8	(SERVO)
AV	n 1 0 0	(A/V)
S1	n 1 0 2	(SBC 1)
S2	n 1 0 2	(SBC 2)
IF	n 1 0 0	(I/F)
Fr	1 0 0 _	(FRONT)

# MEMO

# SECTION 3

## MAINTENANCE & MECHANICAL ADJUSTMENT

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# 1. Maintenance

## 1-1. Maintenance Parts Chart

	Name	Part Number	Using Hours (hrs)				
			500	1500	3000	4500	6000
	Tape Path Cleaning		△	△	△	△	△
1	Cylinder Unit	VEG1337		●	●	●	◎
2	A/C Head	VBR0301					◎
3	S Reel(Rotor Unit)	VXP1681					◎
4	T Reel(Rotor Unit)	VXP1681					◎
5	Loading Motor 1 Unit	VEM0584					◎
6	Pinch Arm Unit	VXL2684		●*1	●*1	●*1	◎
7	S Brake Arm Unit	VXZ0424					◎
8	T Brake Arm Unit	VXZ0425					◎
9	Mode Switch Unit	VES0814					◎
10	Cleaning Arm Unit	VXL2693		●	●	●	◎
11	Pinch Solenoid	VSJ0217					◎
12	S Brake Solenoid	VSJ0216					◎
13	T Brake Solenoid	VSJ0216					◎
14	MIC Rail Unit	VXA5577					◎
15	S1 Loading Arm Unit	VXL2709			●		◎
16	T1 Boat Unit	VXA5852			●		◎
17	Cleaner Solenoid	VSJ0222					◎
18	Reel Drive Motor Unit	VEM0585					◎
19	S5 Post Base Unit	VXA5553			●		◎
20	Tension Arm Unit	VXL2734			●		◎
21	Main Cam Gear	VDG1168					◎
22	M Stopper Solenoid	VSJ0216					◎
	Front Loading Unit	VXA5850					●
	Mech. Chassis Unit	VXY1254					●
	Fan Motor	VRF0190			●		●

**Note:** Using Hours are based on the head rotation hours.

Using hours are recommendation. It may depend on temperature, humidity or dusty.

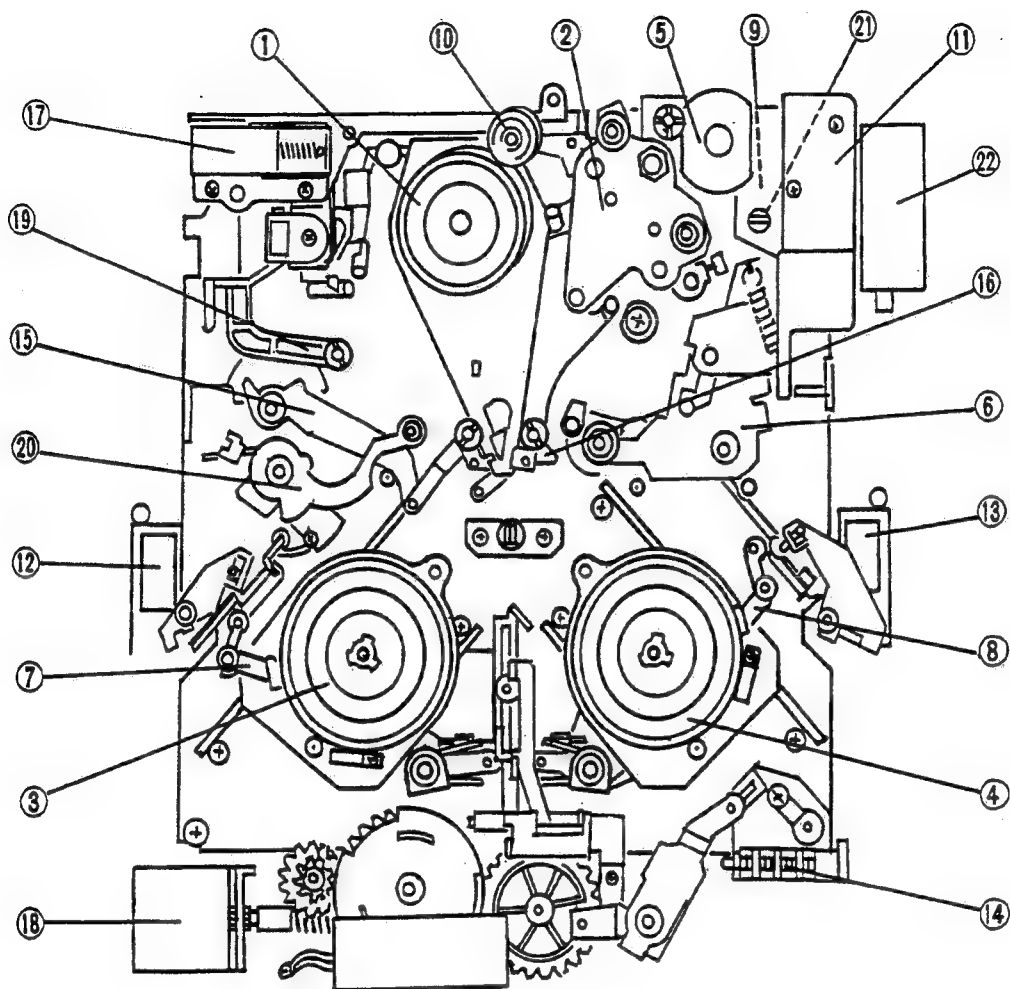
Using hours are listed as the reference of maintenance. They do not mean guarantee hours.

●:This mark means replacement is necessary.

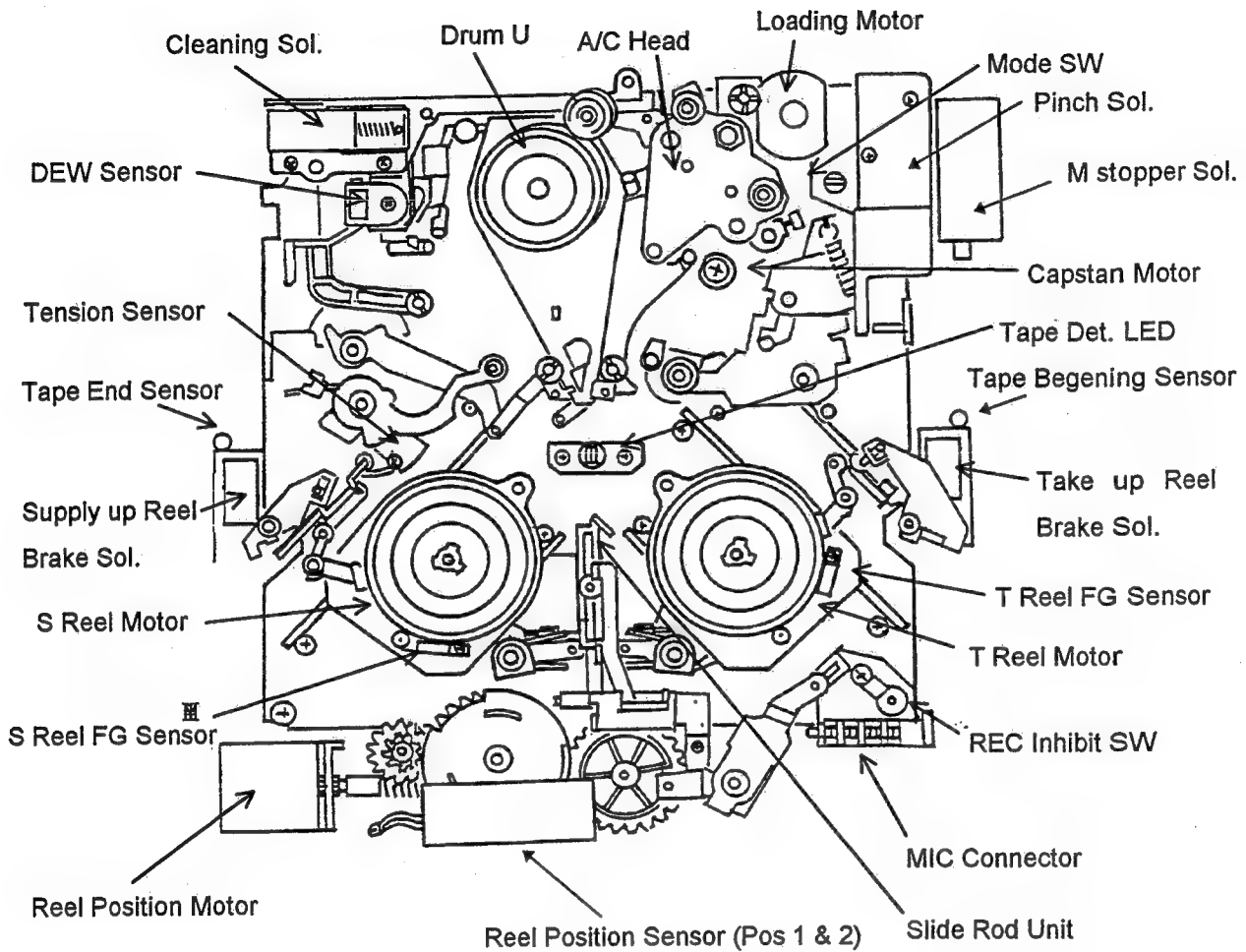
◎:These parts included in Mech. Chassis Unit. Replacing Mech. Chassis Unit is recommended.

\*1. The lubrication is necessary when replacing the Pinch Arm Unit.

△:This mark means cleaning is necessary. Detail cleaning procedures are written in section 4.



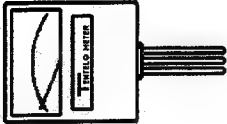
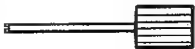
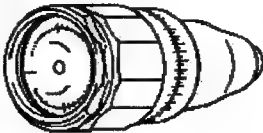



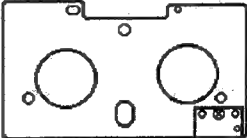
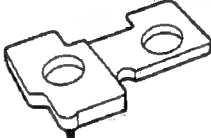

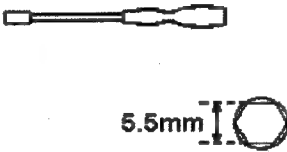

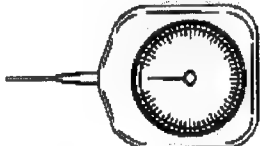


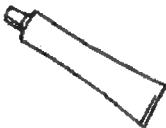



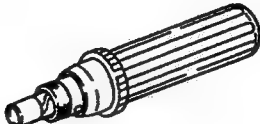
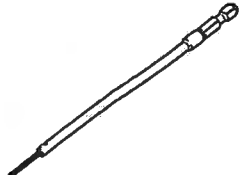
## 1-2. Sensor Layout

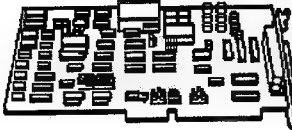
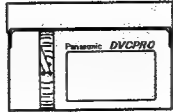
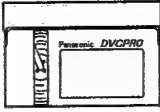


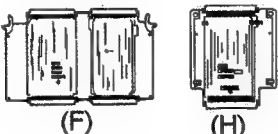
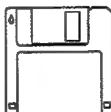

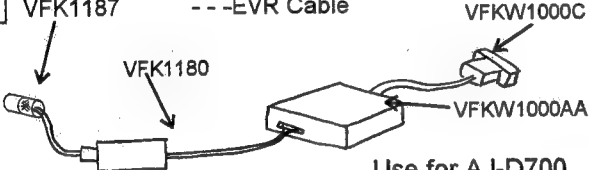






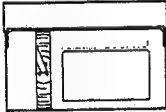
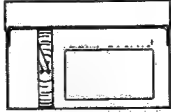
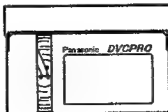
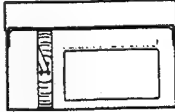


### 1 – 3 . Servicing Fixtures & Tools

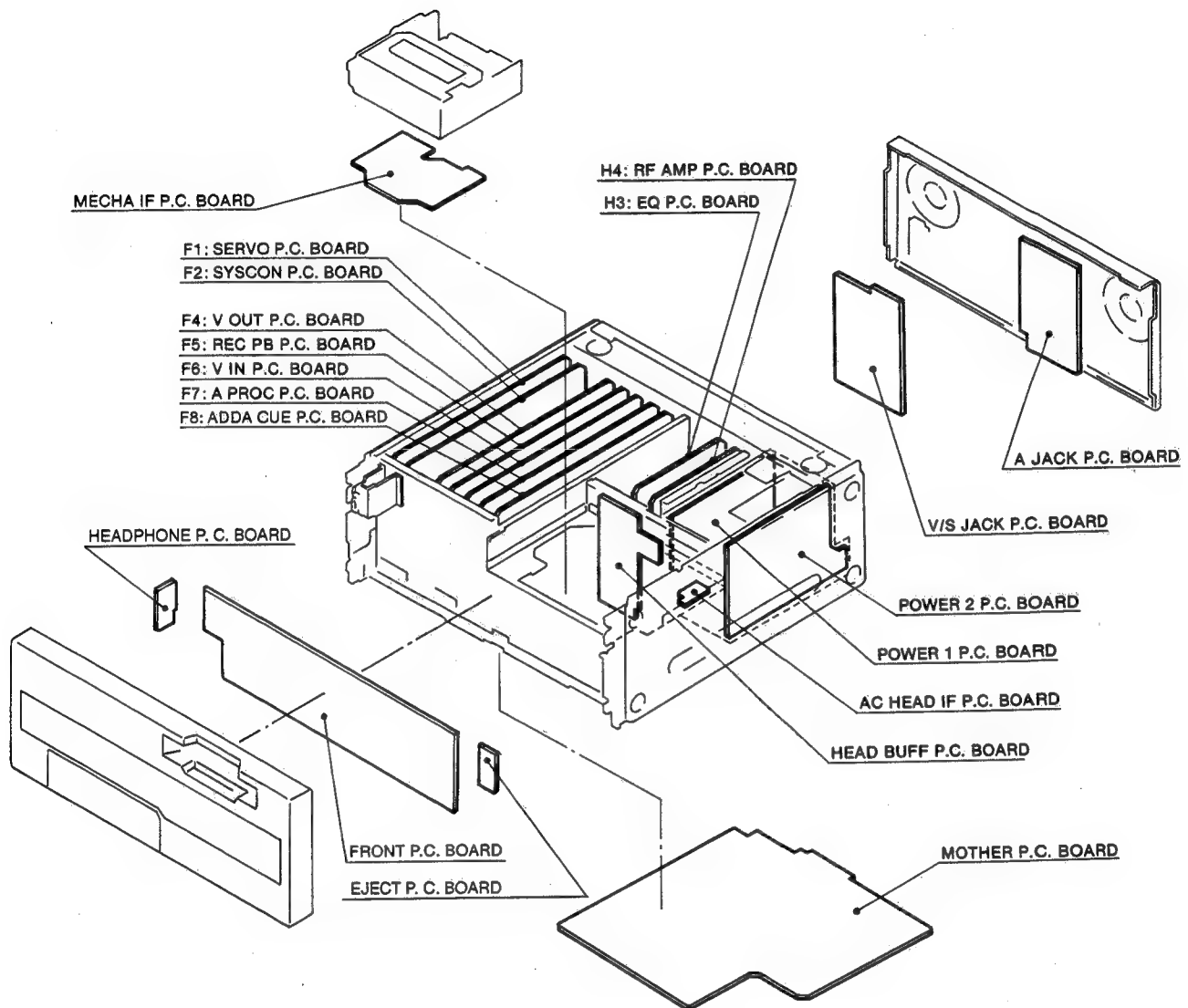
Fig	ITEM	PART No.	JIG & EQUIPMENT	NTSC	PAL	Remark
1	Jig Tool	VFK1145	Back Tension Meter (T2-M30-P)	yes	yes	
2		VFK1149	Post Driver	yes	yes	
3		VFK71	Dial Torque Gauge (150g)	yes	yes	
4		VFK1191	Dial Torque Gauge (45g)	yes	yes	
5		VFK1152	Dial Torque Gauge Adaptor	yes	yes	
6		VFK0357	Eccentric Screwdriver (1.5)	yes	yes	
7		VFK1154	Post Height Fixture	yes	yes	
8		VFK1153	Mech. Neutral Plate (Post)	yes	yes	
9		VFK1157	Mech. Neutral Plate (Cassette)	yes	yes	
10		VFK1155	Neutral Position Tool (Gold)	yes	yes	
11		VFK1156	Neutral Position Tool (Black)	yes	yes	
12		VFK1208	Neutral Position Tool (Black With Hole)	yes	yes	
13		VFK1150	Nut Driver (5.5mm)	yes	yes	
14		VFK1151	Nut Driver (2.5mm)	yes	yes	
15		VFK1188	Dial Tension Gauge (30g)	yes	yes	
16		VFK0948	Check Light	yes	yes	
17		VFK0749	Froiral Grease (for plastic)	yes	yes	
18		MOR265	Morlytone Grease (for metal)	yes	yes	
19		VFK1146	Phillips Driver (Fine)(00-75)	yes	yes	
20		VFK1147	Phillips Driver (Fine)(0-100)	yes	yes	
21		VFK1148	Hex. Driver (1.5)	yes	yes	
22		VFK1178	Hex. Driver (0.89)	yes	yes	
23		VFK1179	Hex. Driver (0.71)	yes	yes	
24		VFK1190	Hex. Wrench	yes	yes	
25		VFK1209	Torque Driver (0.4-3Kg)	yes	yes	
26		VFK0912	Post Axis Driver (1.5mm)	yes	yes	
27		DAQ-12	A/D Board	yes	yes	Purchase locally
28		VFM3580KM	Alignment Tape (No. 1)	yes	no	
29		VFM3581KM	Alignment Tape (No. 2)	yes	no	
30		VFM3582KM	Alignment Tape (No. 3)	yes	no	
31		AJ-CL12MP	Cleaning Tape	yes	yes	SALES
32		VFK1159	LISTA Software	yes	yes	
33		VFK1186	LISTA CABLE	yes	yes	
34		VFK1194	EXTENSION BOARD	no	no	for AJ-D700
35		VFK1192	F EXTENSION BOARD	yes	yes	
36		VFK1193	H EXTENSION BOARD	yes	yes	
37		VFK1162	EVR Tool Software	no	no	for AJ-D700
38		VFK1158	B.E.R. Counter Tool	no	no	for AJ-D700
39		VFK1185	B.E.R. Counter Cable	no	no	for AJ-D700
40		VFKW1000AA	EVR I/F Box Unit	no	no	for AJ-D700
41		VFKW1000C	EVR RS232C Cable	no	no	for AJ-D700
42		VFK1180	EVR SUB I/F Unit	no	no	for AJ-D700
43		VFK1187	EVR Cable	no	no	for AJ-D700
44		VFK1210	Multi-Canon Cable	no	no	for AJ-D700
45		VFK0369	Tweezers	yes	yes	
46		VFK0371	Radio Prier	yes	yes	
47		VFK0372	Cutter Prier	yes	yes	
48		VFK0338	Trimmer Adjustment Driver	yes	yes	
49		VFK0337	Phillips Driver	yes	yes	
50		VFM3000EDS	Alignment Tape (DV LISTA)	yes	yes	
51		VFM3010EDS	Alignment Tape (DV Color Bar)	yes	no	
52		VFM3680KM	Alignment Tape (No. 1)	no	yes	for PAL
53		VFM3681KM	Alignment Tape (No. 2)	no	yes	for PAL
54		VFM3682KM	Alignment Tape (No. 3)	no	yes	for PAL
55		VFM3110EDS	Alignment Tape (DV Color Bar)	no	yes	for PAL



<p>1 VFK1145 Back Tension Meter</p>  <p>Model: T2-M30-P</p>	<p>2 VFK1149 Post Driver</p> 	<p>3 VFK71 (150g) 4 VFK1191(45g) Dial Torque Gauge</p> 	<p>5 VFK1152 Dial Torque Gauge Adapter</p> 
<p>6 VFK0357(φ 1.5) Eccentric Screwdriver</p> 	<p>7 VFK1154 Post Height Fixture</p> 	<p>8 VFK1153 Mech Neutral Plate(Post)</p> 	<p>9 VFK1157 Mech Neutral Plate (cassette)</p> 
<p>10 VFK1155 (REV, White) 11 VFK1156 (PLAY, Black) 12 VFK1208(Neutral, Black With hole)</p>  <p>(White) (Black)</p>	<p>13 VFK1150 Nut Driver(5.5mm)</p>  <p>5.5mm</p>	<p>14 VFK1151 Nut Driver(2.5mm)</p>  <p>2.5mm</p>	<p>15 VFK1188(30g) Dial Tension Gauge</p> 
<p>16 VFK0948(or purchase locally) Check Light</p> 	<p>17 VFK0749 Froiral Grease(White) (for plastic part)</p> 	<p>18 MOR265 Morlytone Grease(Black) (for metal part)</p> 	<p>19 VFK1146 (00 x 75) 20 VFK1147 (0 x 100) Philips Driver</p> 
<p>21 VFK1148(1.5mm) 22 VFK1178(0.89mm) 23 VFK1179(0.71mm) Hex. Driver</p> 	<p>24 VFK1190 (1.5mm) Hex. Wrench</p> 	<p>25 VFK1209 Torque Driver(0.4-3Kg)</p> 	<p>26 VFK0912 Post Axis Driver(1.5mm)</p> 

<p>27 DAQ-12 A/D Converter Board (For Quatech. Purchase Locally)</p> 	<p>28 VFM3580KM 29 VFM3581KM 30 VFM3582KM DVC PRO Alignment Tape</p> 	<p>31 AJ-CL12MP Cleaning Tape</p> 	<p>32 VFK1159 LISTA Software 33 VFK1186 LISTA Cable</p> 
<p>34 VFK1194 Extension Board</p>  <p>Use for AJ-D700</p>	<p>35 VFK1192 --- (F) 36 VFK1193 --- (H) Extension Board</p>  <p>(F) (H)</p>	<p>37 VFK1162 EVR Tool Software</p>  <p>Use for AJ-D700</p>	<p>38 VFK1158 B.E.R. Counter Tool 39 VFK1185 B.E.R. Counter Cable</p>  <p>Use for AJ-D700</p>
<p>40 VFKW1000AA ---EVR I/F Box Unit 41 VFKW1000C ---EVR RS232C Cable 42 VFK1180 ---EVR SUB I/F Unit 43 VFK1187 ---EVR Cable</p>  <p>Use for AJ-D700</p>		<p>44 VFK1210 Multi-Canon Cable</p>  <p>Use for AJ-D700</p>	<p>45 VFK0369 Tweezers</p> 
<p>46 VFK0371 Radio Prier</p> 	<p>47 VFK0372 Cutter Prier</p> 	<p>48 VFK0338 Trimmer Adjustment Driver</p> 	<p>49 VFK0337 Philips Driver</p> 
<p>50 VFM3000EDS DV Alignment Tape (LISTA)</p> 	<p>51 VFM3010EDS DV Alignment Tape (Color Bar)</p> 	<p>52 VFM3680KM 53 VFM3681KM 54 VFM3682KM DVC PRO Alignment Tape</p> 	<p>55 VFM3110EDS DV Alignment Tape (Color Bar)</p> 

## 1 - 4 Boards Location



## 1-5. Alignment Tapes

### DVCPRO Alignment Tape for NTSC

#### VFM3580KM (NTSC)

Time (min)	Video		PCM		CUE	
	Signal	Purpose	Signal	Purpose	Signal	Purpose
0:00	Color Bar SMPTE(75%)	Composite Video Level Confirmation	1kHz -20dB	Audio Level Confirmation	1kHz 0VU	CUE Level Confirmation
7:00	Color Bar Full Field(75%)	Component Video Level Confirmation				
14:00	H Sweep	Frequency Response			6kHz 0VU	A/C Head Azimuth
18:00	Bowtie(500k)	Y/C Timing				
22:00	Pulse&Bar	Y/C Timing			1kHz	Frequency
26:00	Area Markers				300Hz~6kHz	Response
30:00						

#### VFM3581KM (NTSC)

Time(min)	Signal
0:00~20:00	ITI Pattern

#### VFM3582KM (NTSC)

Time(min)	Signal
0:00~10:00	X Value

### for PAL

#### VFM3680KM (PAL)

Time (min)	Video		PCM		CUE	
	Signal	Purpose	Signal	Purpose	Signal	Purpose
0:00	Color Bar 100%	Video Level Confirmation	1kHz -18dBu	Audio Level Confirmation	1kHz Reference level	CUE Level Confirmation
10:00	H Sweep	Frequency Response				
14:00	Area Markers				6kHz Reference level	A/C Head Azimuth
18:00	Bowtie(500k)	Y/C Timing				
22:00	Pulse & Bar	Y/C Timing			1kHz 300Hz~6kHz	Frequency Response
26:00	Multi Pulse	Y/C Timing				
30:00						

#### VFM3681KM (PAL)

Time (min)	Signal
0:00 ~ 20:00	ITI Pattern

#### VFM3682KM (PAL)

Time (min)	Signal
0:00 ~ 10:00	X Value

## Recommended Test And Service Equipment

### NTSC

Part No.	Name	Remark
TSG130A(OP.04)	Analog Component Signal Generator	TEKTRONIX
	Oscilloscope	Frequency Band Width more than 100MHz
1760(OP.SC) or 1780R	SCH Meter	TEKTRONIX
520A	Vector Scope	TEKTRONIX
	Digital Volt Meter	
	Frequency Counter	
	VTVM	Frequency Band Width 4Hz-500KHz
HP8591A	Spectrum Analyzer	Hewlett-Packard
	Audio Analyzer	

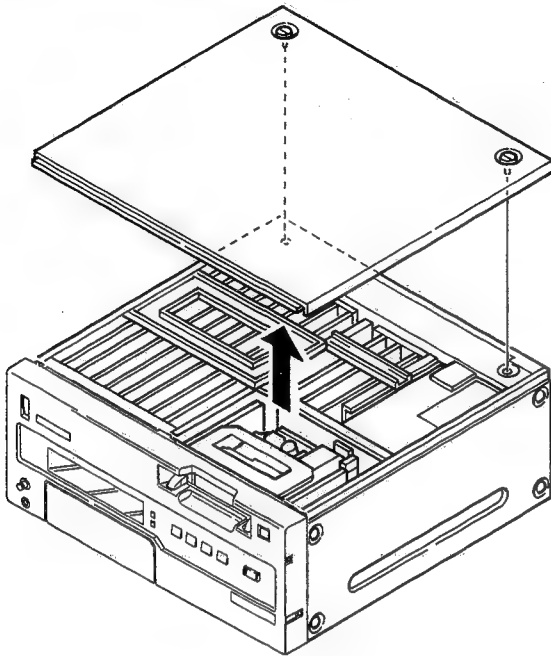
### PAL

Part No.	Name	Remark
TSG131A(OP.04)	Analog Component Signal Generator	TEKTRONIX
	Oscilloscope	Frequency Band Width more than 100MHz
1751(OP.SC) or 1781R	SCH Meter	TEKTRONIX
	Digital Volt Meter	
	Frequency Counter	
	VTVM	Frequency Band Width 4Hz-500KHz
HP8591A	Spectrum Analyzer	Hewlett-Packard
	Audio Analyzer	

## 2. Disassembly Method

### 2-1. Removal of Top Panel

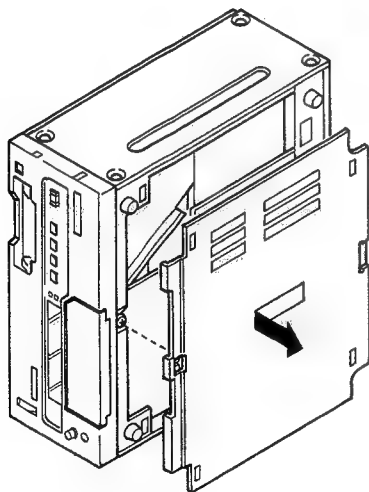
Loosen the two screws on the top panel.



### 2-2. Removal of Bottom Panel

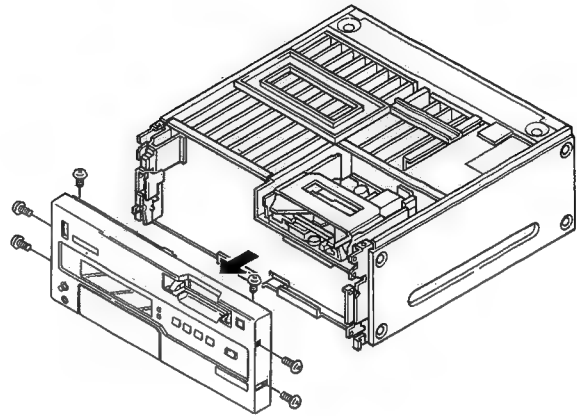
Loosen one screw.

Move the bottom panel to the front direction and remove the bottom panel.



### 2-3. Removal of Front Panel

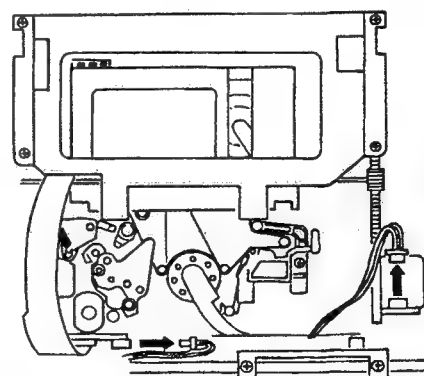
1. Remove the 4 screws at left and right.
2. Remove the 2 screws with Front Panel on the VTR top side.
3. Then draw it and remove the connector and remove the Front Panel.



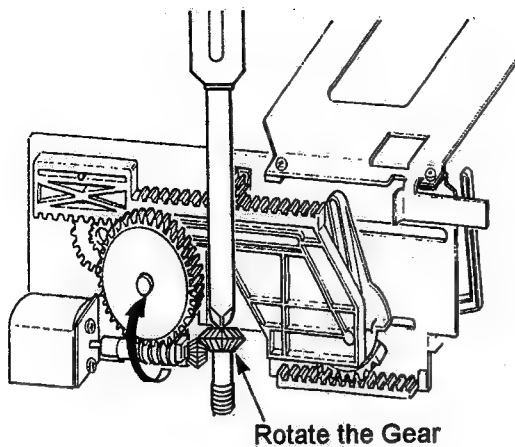
**Note:** After installation of Front Panel, confirm that the Blinder Panel is moved up and down smoothly by hand. If not, the Blinder Panel is caught by Blinder Panel Opener.

### 2-4. Removal of Front Loading Unit

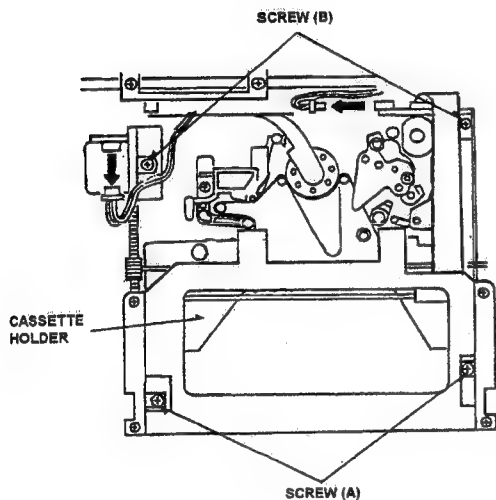
1. Disconnect 2 connectors at Front Loading motor part and the mechanism interconnection board.



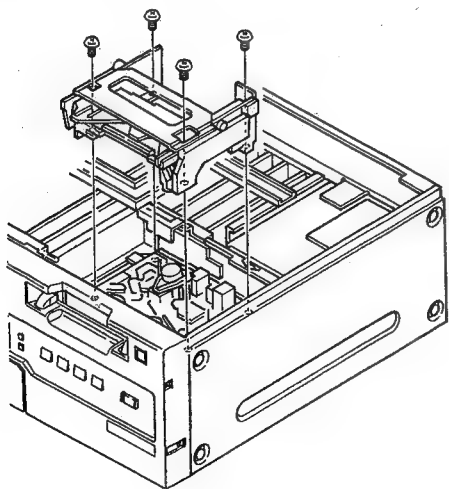
2. Rotate the red plastic screw in front of the worm gear of the cassette down motor counterclockwise by a Philips-head screwdriver pushing the screw to move the Cassette Holder unit the 2 screws (A) can be removal position.



Rotate the Gear

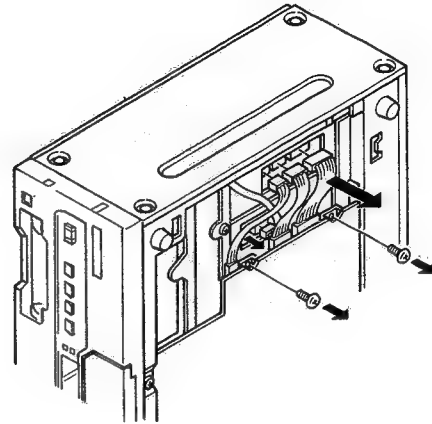


3. Unscrew the 4 screws (A) and (B), then remove the Front Loading Unit.

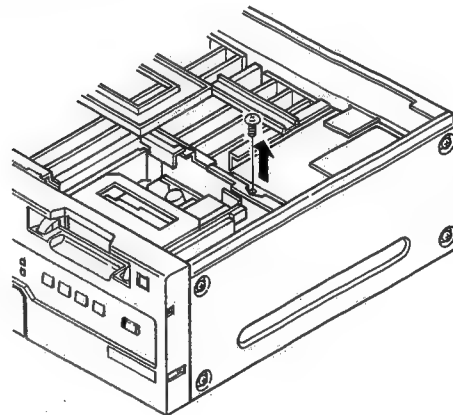


## 2-5. Removal of Power Supply unit

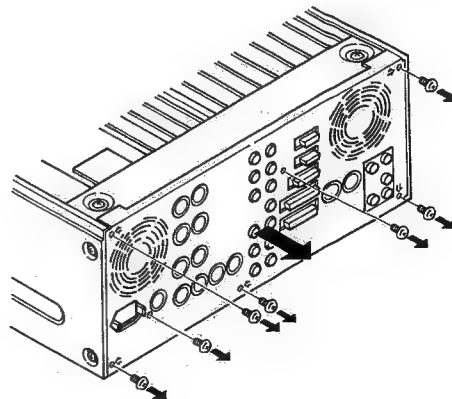
1. Remove 4 connectors with the Power Supply unit on the VTR bottom side.
2. Remove 2 screws with the Power Supply unit on the VTR bottom side.



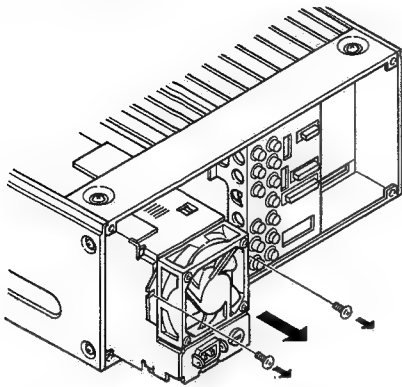
3. Remove 1 screw with the Power Supply unit on the VTR top side.



4. Remove the Rear Jack by removing 7 screws.

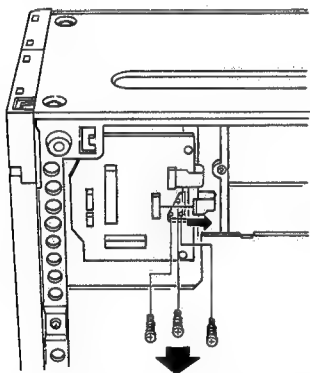


5. Remove 2 screws with the Power Supply unit on the VTR rear side.



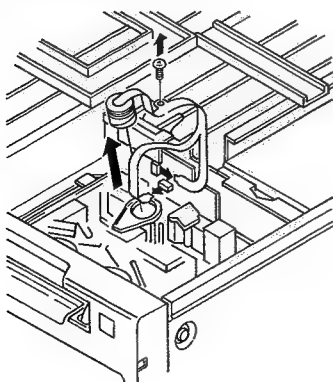
## 2-6. Removal of Cylinder Unit

1. Disconnect the P33 which is connected to the mech. interface on the VTR bottom. Then remove the 3 screws which have spring from the cylinder unit.



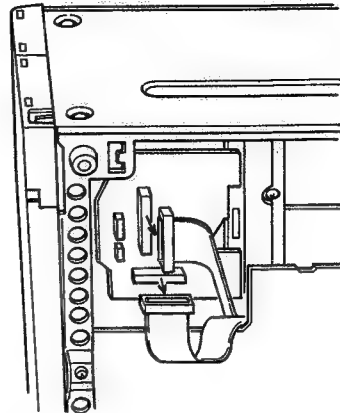
2. Remove the P5003 and P5002 which are connected to Head Buffer board at VTR top, and remove the screw which is attached with the flexible board connector, then remove the cylinder unit without touching any mechanism parts.

- Assemble procedures are reverse of the disassembly method.

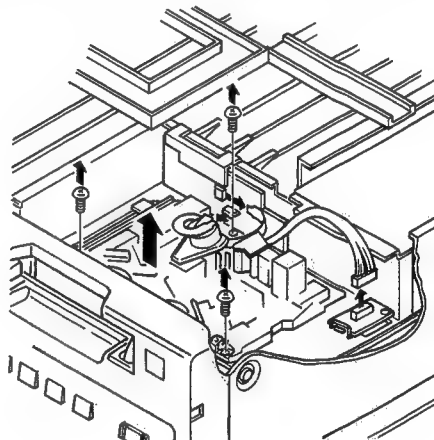


## 2-7. Removal of Mechanism Unit

1. Remove the front loading unit.
2. Remove the connector P1 and P2 which are connected to mech. interface at VTR bottom.



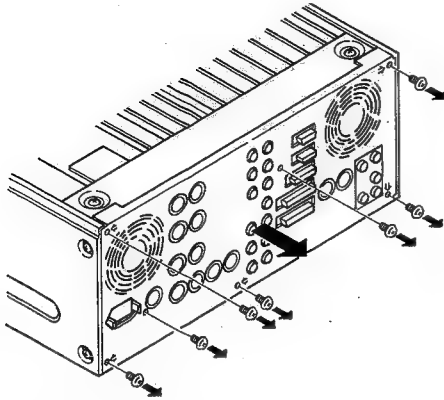
3. Remove the A/C Head cable from the intermediate point, and remove the P5003 and P5002 which are connected between the cylinder unit and Head Buffer board. Then remove the 3 screws and remove the mechanism unit.



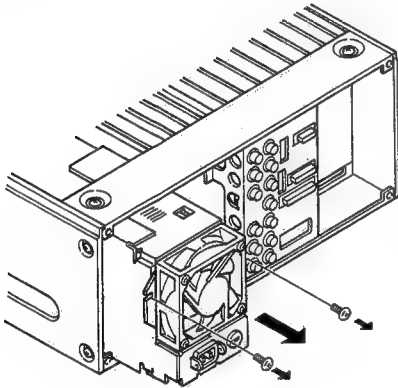


## 2-8. Removal of Fan Motor Unit

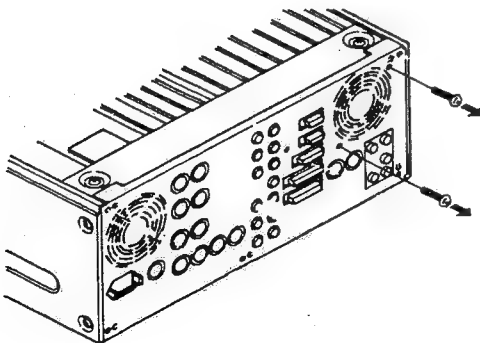
1. Remove the Rear Jack by removing 7 screws.



2. Unscrew the screws and disconnect the connector P14 on the Power 2 P.C.B., then remove the Fan Motor Unit.



3. Unscrew the screws and disconnect the connector P032 on the Mother P.C.B., then remove the Fan Motor Unit.



### 3. Manual Tape Eject

When a tape cannot be ejected, because of Power failure or mechanical tape damage, remove the tape manually.

1. Turns power off and remove the top panel and front panel.
2. Release the T Reel brake by pressing the iron core of the T Reel Brake Solenoid.

This is done by a thin stick from the VTR front.

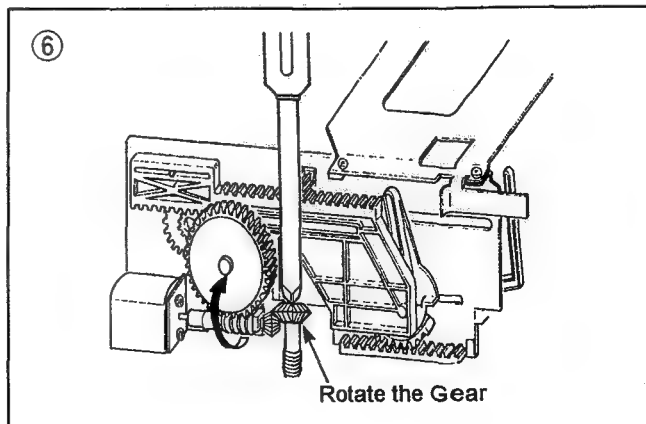
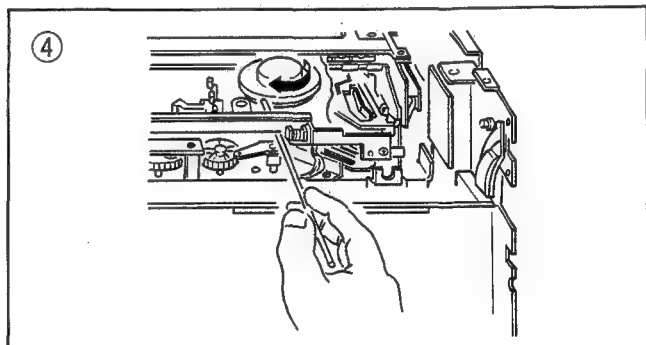
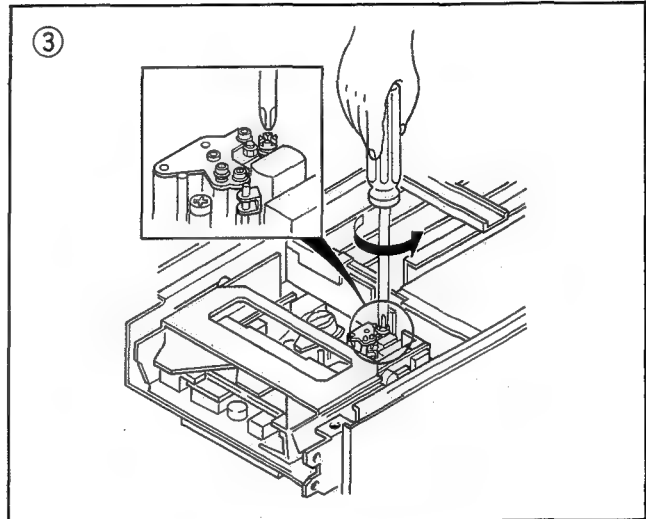
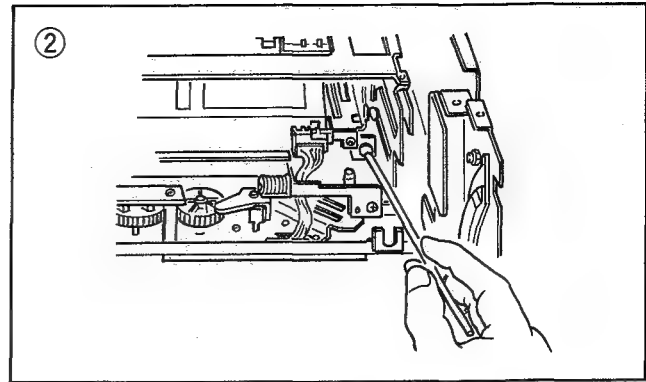
3. Rotate the red plastic screw by a Phillips-head screwdriver counterclockwise pushing the screw. It needs to rotate about 30 times rotation until starting to move.

4. When the post is unloaded, the tape loosens, so take-up reel must be wound the tape to protect tape loosen.

The tape wind method is ; inserting a wood stick(non magnetized) between the cassette and mechanism chassis from the front and rotate the T Reel to tape wind direction.

5. Repeat item 3 and 4 until the tape in wound completely inside of the cassette.

6. When the tape is completely inside of the cassette, rotate the red screw in front of the worm gear of the cassette down motor clockwise by a Phillips-head screwdriver pusing the screw and remove the cassette. Take care so that the cassette cover does not bite the tape when the cover is closed.

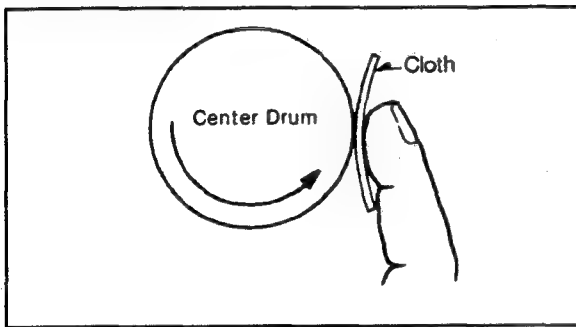


## 4. Cleaning Procedures

Make sure the power is OFF before cleaning. Use ethanol (more than 99% purity) as cleaning liquid.

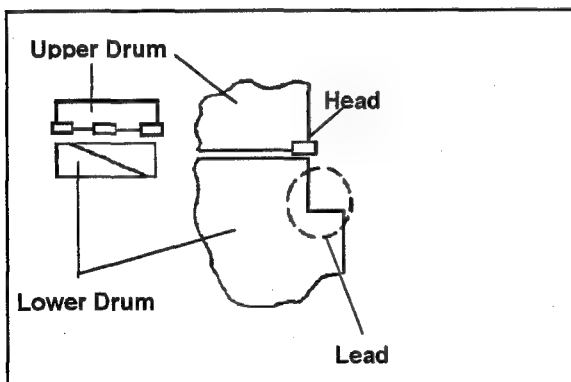
### 4-1. Cleaning of Head Chips :(Daily)

Clean heads by applying even pressure and rotating cylinder a few times. Never wipe in up and down motion. Never touch a cylinder by naked hand. First wipe with a cloth soaked by cleaning liquid. Then wipe with dry cloth.



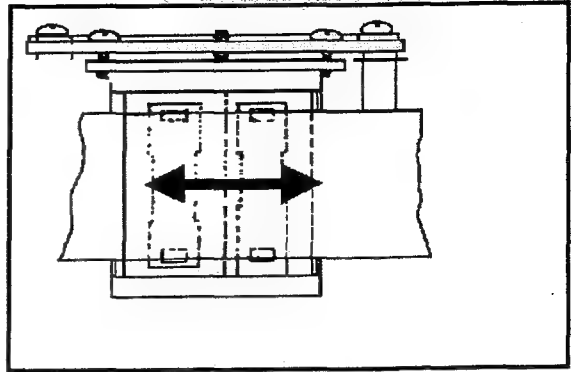
### 4-2. Cleaning of Drum Lead :(Weekly)

Be careful not to touch a head chip. Clean the drum lead with a pick.



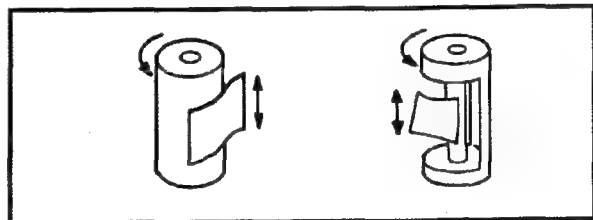
### 4-3. Cleaning of A/C Head :(Weekly)

Wipe the A/C head with a cloth soaked by cleaning liquid. Wipe again with a dry cloth.



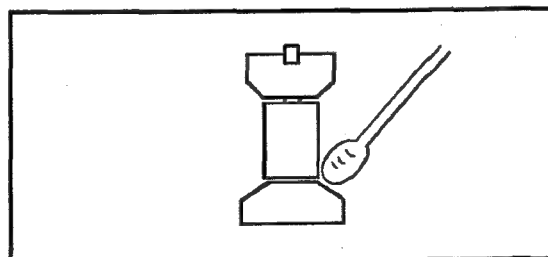
### 4-4. Cleaning of Pinch Roller and Capstan :(Weekly)

Wipe the Pinch Roller and Capstan with a cloth soaked by cleaning liquid.



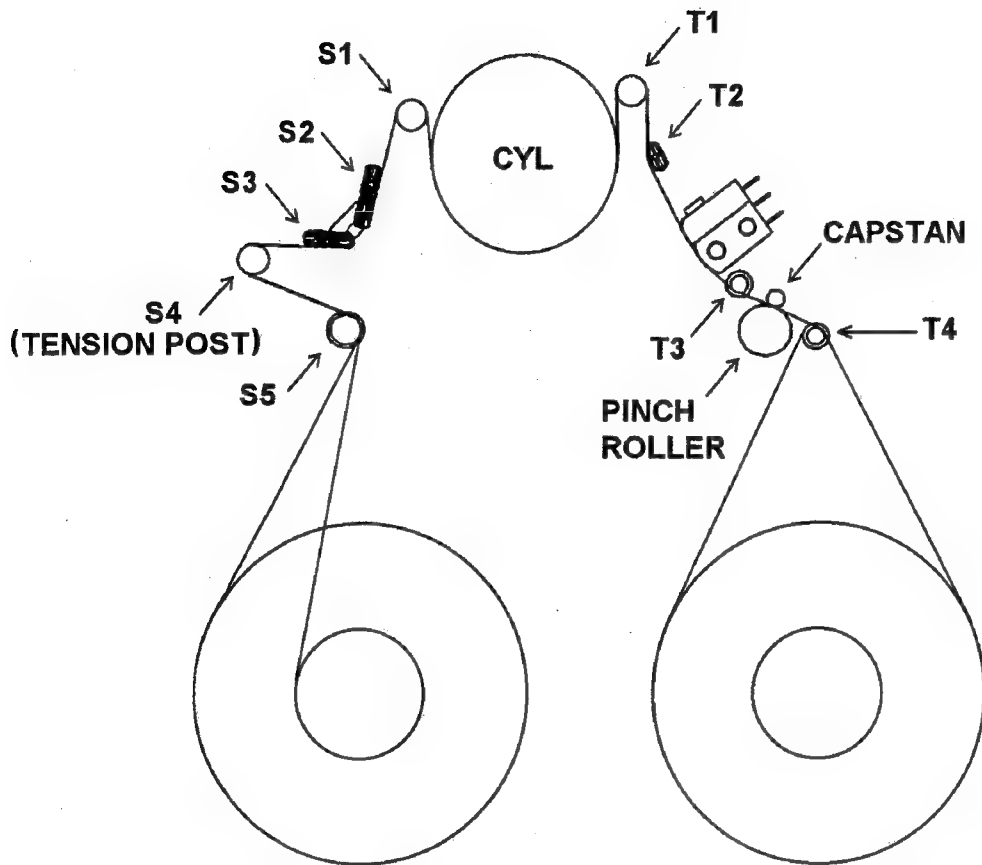
### 4-5. Cleaning of Post :(Weekly)

Wind a cloth on a pick. Wipe each post dry with that pick. Wipe again with a dry cloth. For metal posts wipe with cleaning liquid. Then wipe dry again.



## 5. Mechanism Adjustment

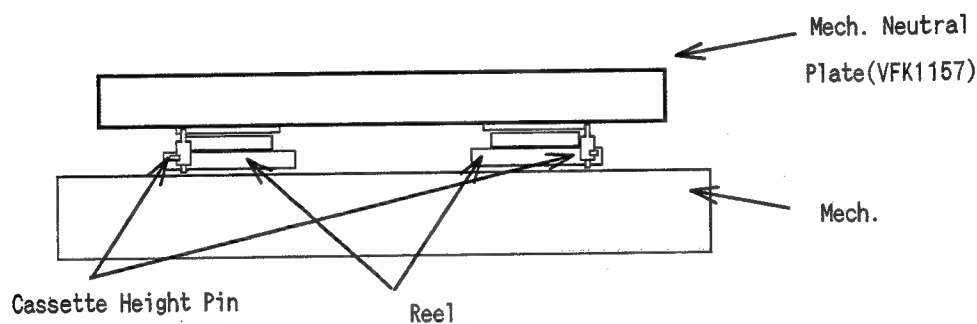
### 5-1. Name of tape transportation



## 5-2. Cassette Height Position Pin Adjustment

Specification	No Space between mech. neutral plate and cassette height position pin
Mode	EJECT
Test Point	The space between mech. neutral plate and cassette height position pin
Equipment and tool	VFK1157 (Mech. Neutral Plate) VFK1179 (Hex Driver 0.71 mm)
Adjustment	Hex Screw of the cassette height position pin

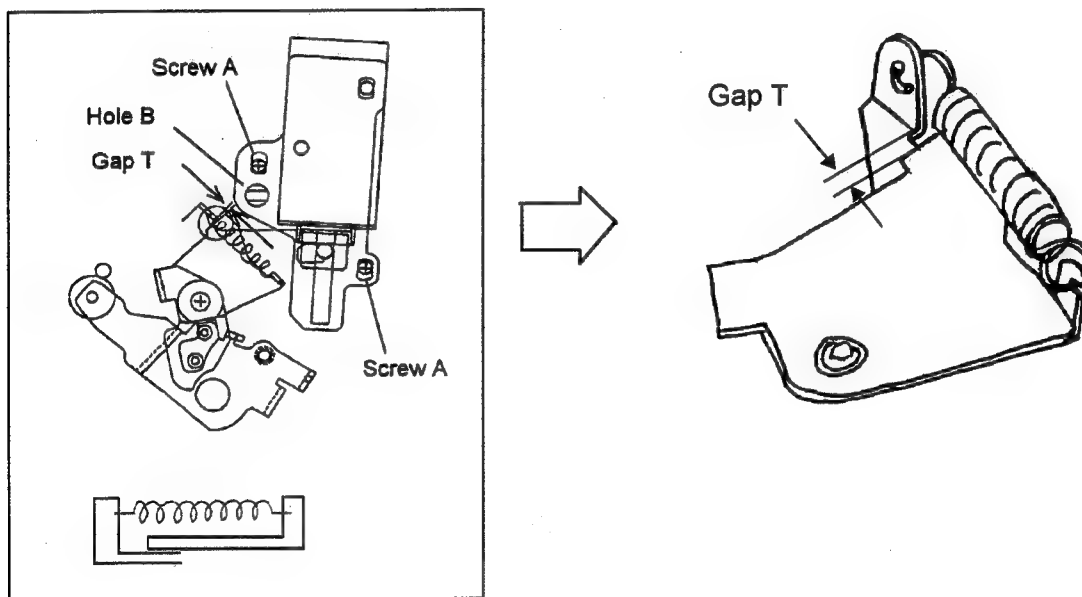
1. Confirm the Reel Table is located at M cassette position. If it is located at L or S cassette position, turns power on and insert M cassette and eject the M cassette.
2. Turns power off. Remove the front loading unit. Place the Mech. Neutral Plate (VFK1157) on the Reel Table.
3. There is no space between mech. neutral plate and cassette height position pin
4. If there is a space between them, melt the grew of the hex screw of the cassette height pin and loosen the hex screw. Then the cassette height pin is raised by its spring and touch the mech. neutral plate. Tighten the hex screw in this condition and grew the hex screw.
5. Adjust both S and T Reel Tables.



### 5-3. Pinch Solenoid Position Adjustment

Specification	T = 0.3 mm
Mode	EJECT
Test Point	Gap T
Equipment and tool	VFK0357
Adjustment	Hole B

1. Turns power off. and close the pinch roller to the capstan shaft by hand.
2. Press the pinch solenoid by your hand so that the pinch roller is engaged to the capstan shaft.
3. Loosen the screw A and adjust Hole B by VFK0357 so that the gap "T" portion is in the specification.
4. Tighten the screw A after adjustment.



#### 5-4. Main Brake Torque Confirmation

Specification	Tighten Direction    more than 80 gcm
	Loosen Direction    more than 15 gcm
Mode	
Test Point	Reel Table
Equipment and tool	VFK71 (150 g torque meter)
	VFK1191 (45 g torque meter)
	VFK1152 (Adapter)
Adjustment	

1. Remove the front loading unit.

2. Attach the Adapter (VFK1152) with the torque meter and attach the torque meter with the reel.

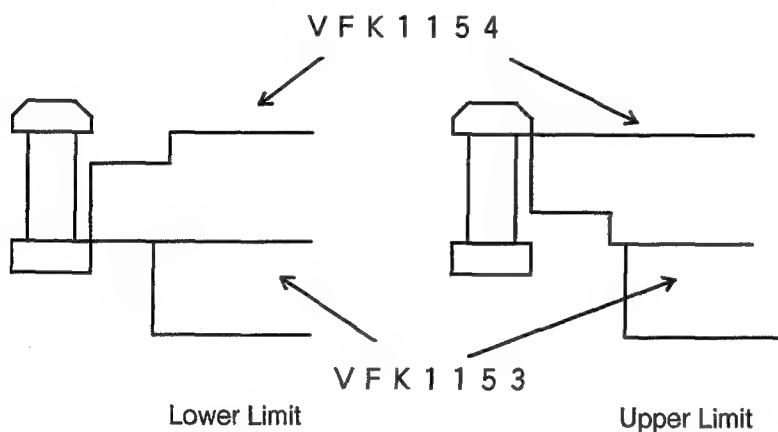
Then rotate the torque meter and read the value when the brake is release and the reel starts rotation both CW and CCW direction for both reel tables.

### 5-5. Post Height Pre-Adjustment

Name	Limit	Post Driver	
S4 Post	* Lower	VFK1149	
S5 Post	* Lower	VFK1149	
T3 Post	Lower	VFK1151 (2.5 mm Nut Box )	
T4 Post	Lower	VFK1151 (2.5 mm Nut Box )	

\* :Turn S4 and S5 posts 1 round more counter clockwise from Lower Limit position.

Tool	VFK1153 (Mech. Plate), VFK1154 (Flange Tool ) VFK1149, VFK1151
Mode	EJECT (Power OFF )



1. Confirm the Reel Table is located at M cassette position. If it is located at L or S cassette position, turns power on and insert M cassette and eject the M cassette.
2. Turns power off. Remove the front loading unit. Place the Mech. Plate (VFK1153) on the Reel Table.
3. Place the flange tool (VFK1154) as shown in the figure and adjust the post height.
4. Adjust the S4 and S5 post height by VFK1149 and adjust T3 and T4 by VFK1151.

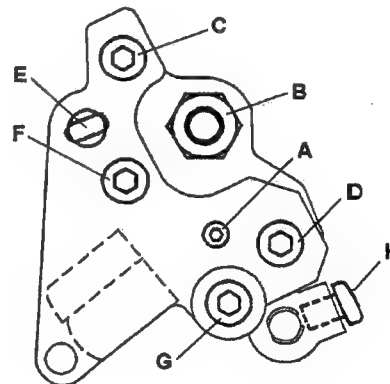
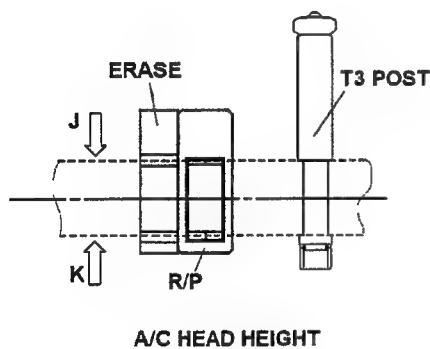


## 5-6. A/C Head Height Pre Adjustment

Name of Adjustment	Screw	Adjustment	Tool
A/C Head Tilt	A	Screw A is not loosen.	VFK1178 (0.89 mm)
A/C Head Height	B	Adjust the height so that Cue R/P head is located at lower limit of the T3 post.	VFK1150 (5.5 mm)
A/C Head Horizontal Position	C D	Adjust the hole E, and slightly tighten the screw.	VFK1148 (1.5 mm)
	E	Adjust E at center position.	VFK0357
A/C Head Azimuth	F	Adjust the A/C head straight.	VFK1148 (1.5 mm)
A/C Head screws	G	Tighten the screw.	VFK1148 (1.5 mm)
	H	Adjust the height by screw B and slightly tighten it.	VFK1190

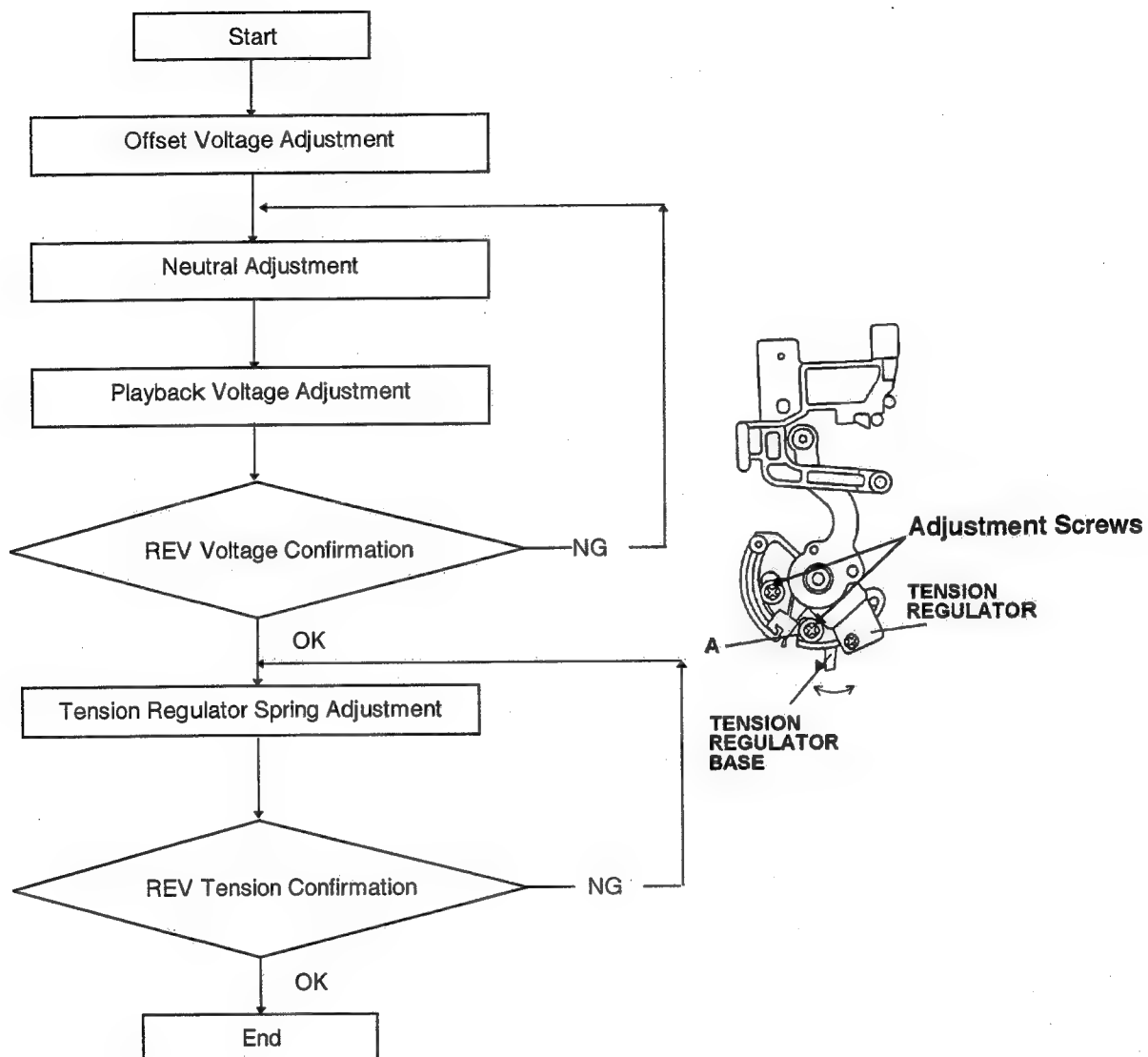
Torque of the each screw	C, D	2.5 kg cm
	G	1.0 kg cm

1. A/C Head Tilt Pre Adjustment  
Confirm the screw A is toughed with the A/C head connection plate and it is not loosen.
2. A/C Head Pre Horizontal Position Adjustment  
Loosen the screw C and D and adjust the hole E so that the position is at center and slightly tighten the screw C and D.
3. A/C Head Pre Height Adjustment  
Adjust the A/C Head Height so that the Cue R/P head is located at the lower limit of the T3 post.
4. A/C Head Pre Azimuth Adjustment  
Adjust the A/C Head Azimuth is parallel to the T3 post flange.
5. A/C head screws  
Tighten the each screw according with the upper table and confirm the each adjustment again.



## 5-7. Tension Arm Adjustment Procedures

When this adjustment is done, melt the grew of the adjustment screws.

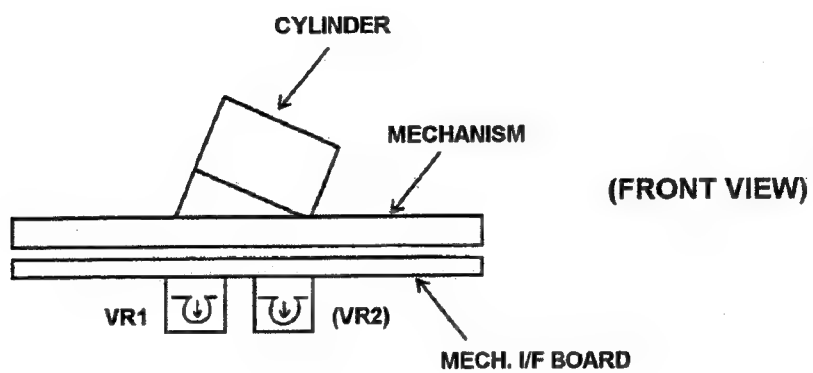


## 5-8. Tension Arm Offset Voltage Adjustment

Specification	$2.5 \pm 0.05(V)$
Mode	EJECT
Test Point	TP201(Servo board : F1)
Equipment	Digital Volt meter
Adjustment	VR1 ( Mech. I/F board: bottom of Mechanism )

Remove the Front Panel (Refer to item 2-3).

Adjust VR1 so that the DC voltage at TP201 is in the specification in EJECT mode



## 5-9. Tension Arm Neutral Position Adjustment

Specification	2.5 V $\pm$ 0.1 V
Mode	STOP
Test Point	TP201 (Servo board : F1)
Equipment	Digital Volt meter or Oscilloscope
Adjustment	Tension Regulator Board Position
Tool	VFK1208 (Tension Arm Tool: neutral, black, with hole)

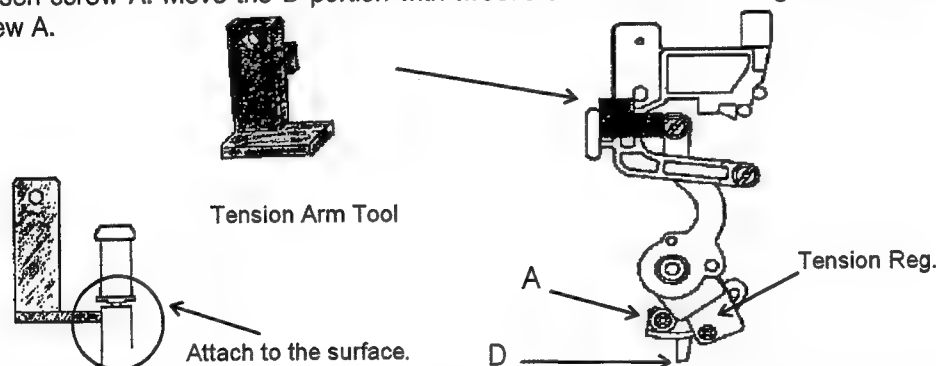
1. Unscrew the 4 screws and remove the Top Plate on the front loading unit.
2. Set the VFK1208.
3. Place the unit into the no tape loading mode (Refer to No tape loading procedure described as below).
4. [Connect the Digital Volt meter to TP201 on F1 board] then move the tension regulator board so that the voltage at TP201 is in the specification.
5. After adjustment, press the MENU button surely to escape from SERVICE-MENU before Power OFF.

### ● [ No tape loading procedures are as follows. ]

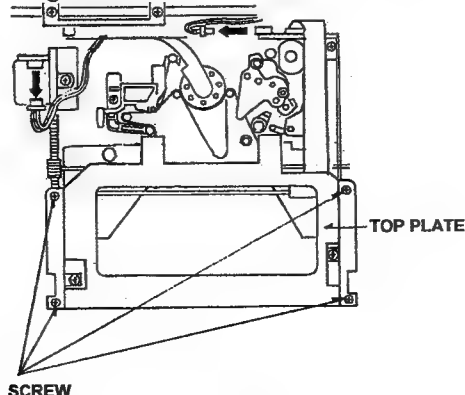
- ① Press the MENU button. (SET UP-MENU is displayed on the VIDEO OUT 3.)
- ② Pressing the EJECT button and the STOP button simultaneously, press the MENU button. (SERVICE-MENU is displayed.)
- ③ Press the cursor buttons (▲, ▼) so that the cursor (\*) is at A00:SERVO ADJUST.
- ④ Press the SET button.
- ⑤ Press the cursor button (▲, ▼) so that the cursor (\*) is at A02:T TORQUE.
- ⑥ Press the STOP button. During adjustment, hold the STOP button.

### ● [The tension regulator board adjustment procedures are as follows.]

Loosen screw A. Move the D portion with tweezers which are not magnetized. Then tighten the screw A.



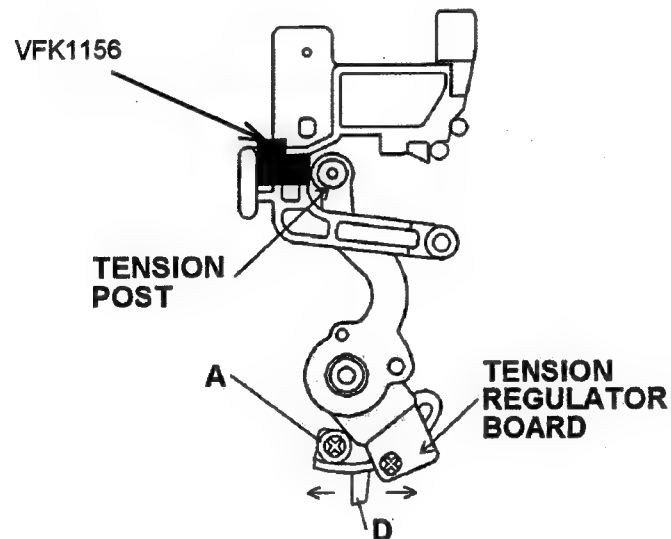
**CAUTION:** Don't touch the magnetize screw driver to S-Reel FG magnet portion, when the "D" portion is adjusting.



### 5-10. Tension Arm PLAY Voltage Adjustment

Specification	3.8±0.05(V)
Mode	STOP
Test Point	TP201(Servo board : F1)
Equipment	Digital Volt meter
Adjustment	VR2(Mech. I/F board : bottom of Mechanism)
Tool	VFK1156

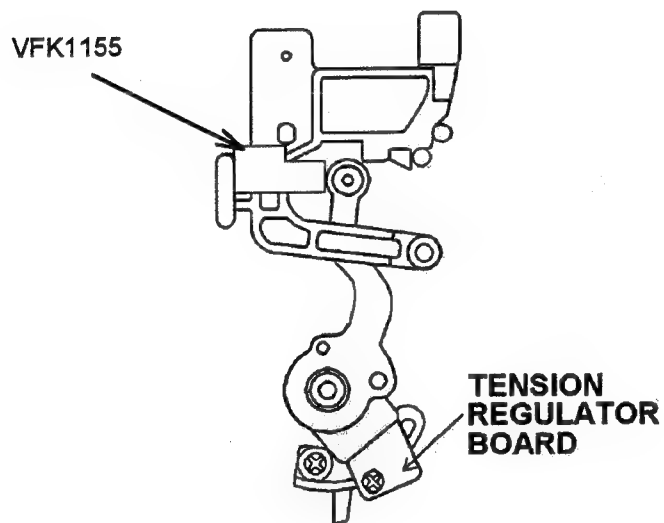
1. Set the VFK1156 at the specified position. (Tension Arm Tool : Play, Black color )
2. Place into loading mode without a tape.
3. Adjust VR2 so that the Specification of TP201 in STOP mode is in the specification.



### 5-11. Tension Arm REV Voltage Confirmation

Specification	1.2±0.3(V)
Mode	STOP
Test Point	TP201 (Servo board : F1)
Equipment	Digital Volt meter
Adjustment	_____
Tool	VFK1155 (Tension Arm Tool : REV, White )

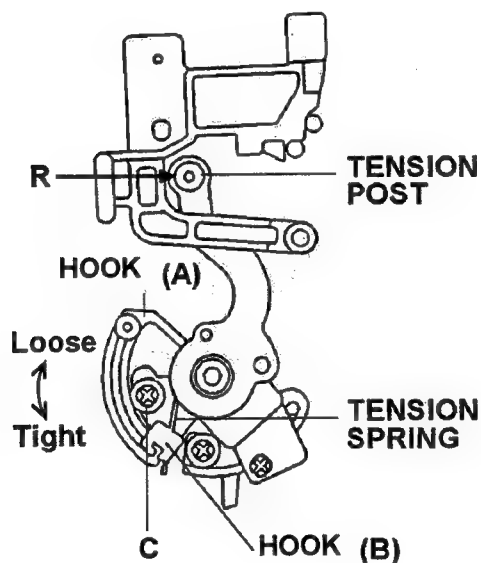
1. Set VFK1155 (Tension Arm Tool : REV, White ) to the specified position.
2. Place the VTR into the no tape loading.
3. Confirm the voltage at TP201 is in the specification in STOP mode.
4. If it is out of specification, adjust "5-9. Tension Arm Neutral Position Adjustment".



## 5-12. Tension Arm Tension Regulator Spring Adjustment

Specification	11±1(gf)
Mode	STOP
Test Point	TP201 (Servo board : F1)
Equipment	Digital Volt meter
Adjustment	Tension Regulator Spring Hook (B) Position
Tool	VFK1188(30g Dial Tension Gauge)

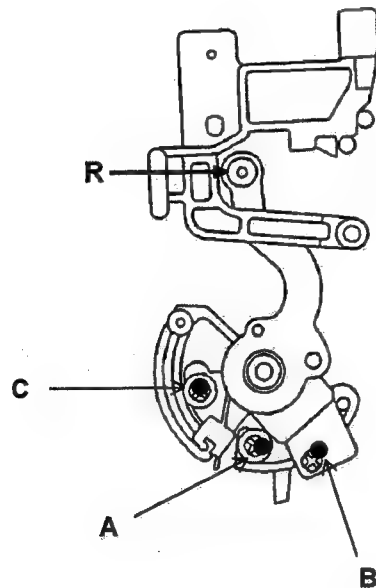
1. Place the VTR into no tape loading.
2. Press the post at the R position by Dial Tension Gauge until the voltage at TP201 is 3.8 V (Play position).
3. Adjust Tension Regulator Spring Hook (B) so that the tension is in the specification.  
Adjust the Tension Regulator Hook (B) position as follows.
  - Loosen screw C.
  - Adjust the position.
  - Tighten screw C.



### 5-13. REV Tension Confirmation

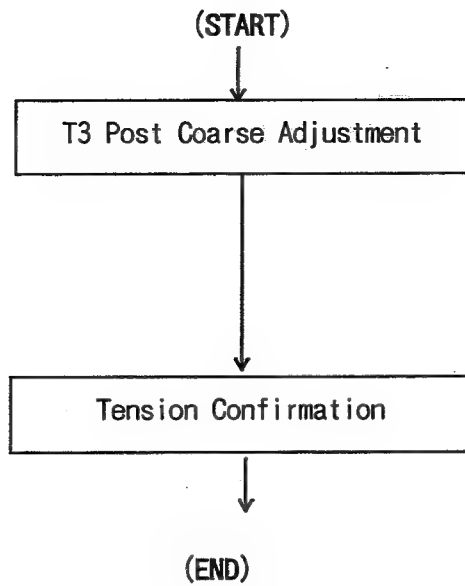
Specification	REV Tension : $18\pm 2$ (g)
Mode	STOP
Test Point	TP201(Servo board : F1)
Equipment	Digital Volt meter
Adjustment	_____
Tool	VFK1188(30g Dial Tension Gauge)

1. Place the VTR into no tape loading.
2. Press the post at the R position by Dial Tension Gauge until the voltage at TP201 is 1.2 V (REV position).
3. Confirm the tension is in the specification. If it is not, adjust Tension Regulator Adjustment again.
4. Grew the screw A, B and C after Tension Arm adjustment. The grew quantity at B is half of A and C.





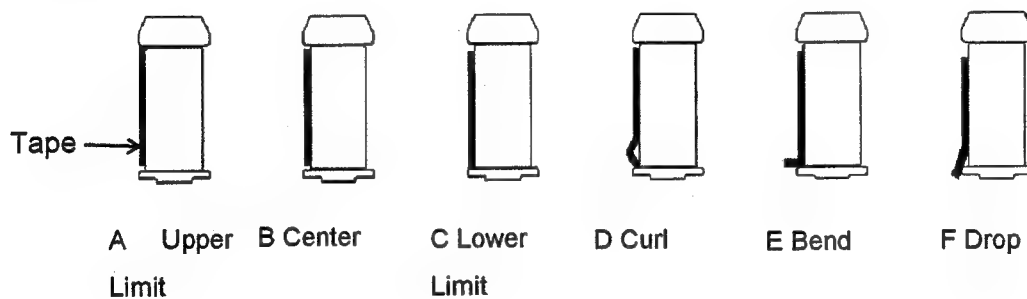
## 5-14. Tension Confirmation Procedures



## 5-15.T3 Post Coarse Adjustment

Specification	A, B, C shows good condition, D, E, F shows bad condition.
Mode	PLAY
Adjustment	T3 Post Height
Tool	VFK1151 ( Box Driver 2.5 mm)
Tape	Working Tape (This adjustment may damage the tape.)

Place the unit into PLAY mode and adjust T3 Post height so that the tape runs without any tape damage.

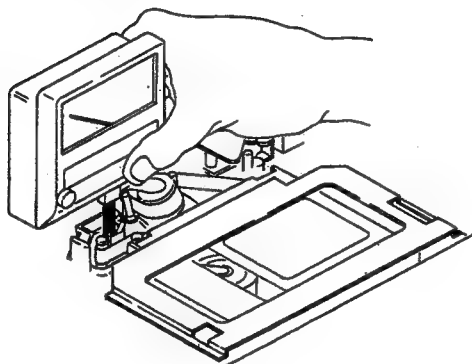


## 5-16. Play Mode Tension Confirmation

Specification	$6 \pm 1$ g PLAY
Tool	VFK1145 (Back Tension Meter)

1. Playback the beginning part of the 63 min Tape.
2. Insert the back tension meter between S3 and S4 post (Tension arm).
3. Confirm the tension is in the specification.

**NOTE:** Be careful not to give some tape damage.

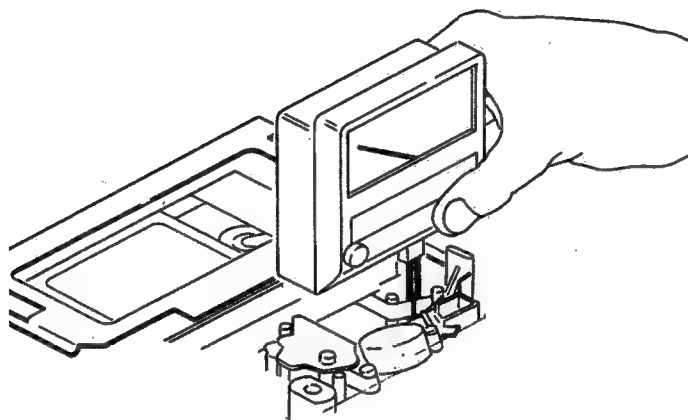


### 5-17. Reverse Tension Confirmation

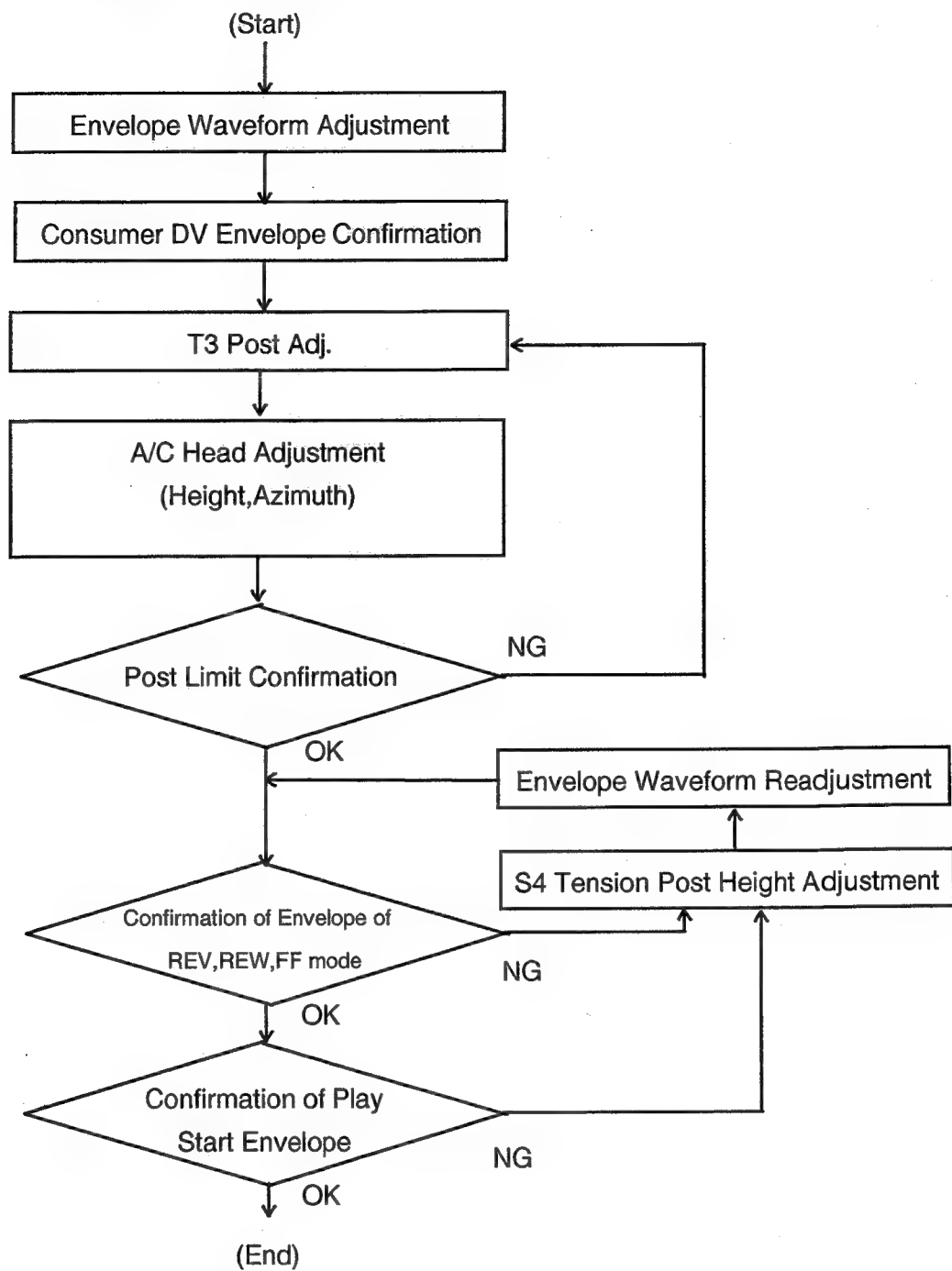
Specification	$9 \pm 2\text{g}$ REV( $\times 1$ )
Tool	VFK1145 (Back Tension Meter)

1. Set the 63 min Tape and place the unit into Reverse mode.
2. Insert the back tension meter between S5 and S4 post (Tension arm).
3. Confirm the tension is in the specification.

**NOTE:** Be careful not to give some tape damage.



## 5-18. Tape Pass Adjustment Procedures



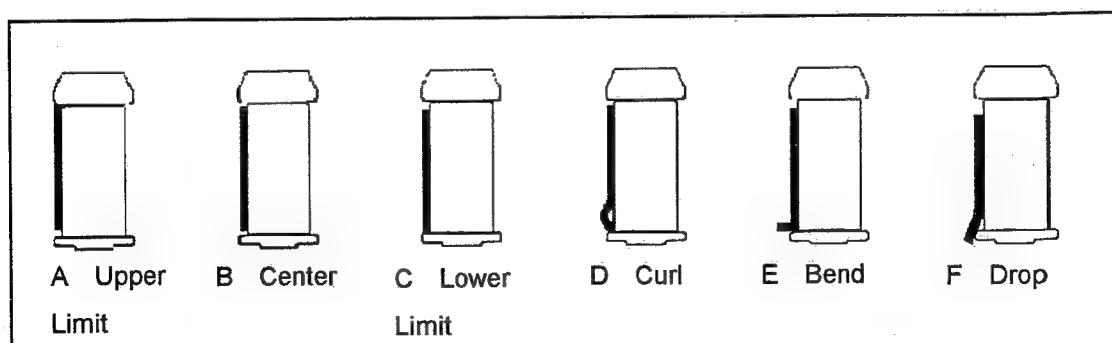
## 5-19. Tape Pass Adjustment (COARSE) and Tape Pass Limit Confirmation

Specification	Confirm the each post limitation is as shown in the table.
Mode	PLAY
Adjustment	A/C Head Screw
Tool	VFK1149 (Post Driver) VFK1150 (Box Driver 5.5mm) VFK1151 (Box Driver 2.5mm) VFK1178 (0.89mm) . . . Screw A VFK1148 (1.5mm) . . . Screw G
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion)

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	×	○	○	×	×	×	S5 Post	
S4 Tension Post	×	×	○	×	×	×	Tension Post Height	
S1 Post	○	×	×	×	×	×	Envelope Adjustment	
T1 Post	○	×	×	×	×	×		
A/C Head							CTL Adjustment	
T3 Post	×	×	○	×	×	×	T3 Post Height	
T4 Post	×	○	○	×	×	×	T4 Post Height	

○ means acceptable.      × means not acceptable.

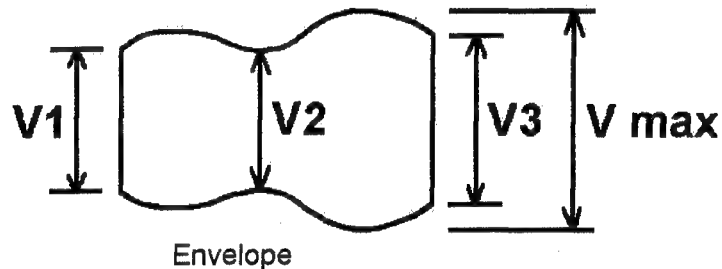
1. Place unit into PLAY mode, and adjust the height of each post do not to occurred tape damage.
2. Regarding the S1 Post, T1 Post and A/C Head adjustment, refer to item "Envelope Waveform Adjustment" and "A/C Head Azimuth Adjustment".
3. Confirm the tape pass limit of each post as below figure.



### 5-20. Envelope Waveform Adjustment

Specification	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
Mode	ATF Control PLAY mode
Test Point	TP16: R/P envelope(RF Board:H4) TP1: TRIG.(RF Board:H4)
Equipment	Oscilloscope
Adjustment	S1, T1 Post Height
Tool	VFK1149 (Post Driver)
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion)

1. Playback the color bar portion of the alignment tape.
2. Adjust S1 and T1 post height so that the R/P envelope output is in the specification.
3. When the S1 and T1 posts are adjusted, first raise the post height and make small the entrance and exit side of the envelope, then down the post until envelope becomes flat.
4. Adjust T1 post and makes exit side of the envelope flat then adjust S1 post.
5. After the adjustment, unload the tape then loading the tape. Confirm the waveform style.



### 5-21. Consumer DV Envelope Confirmation

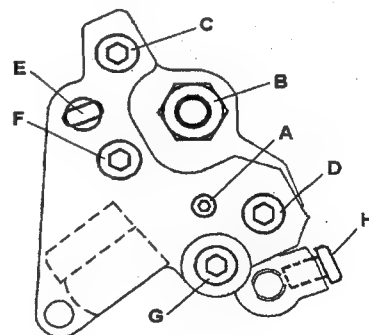
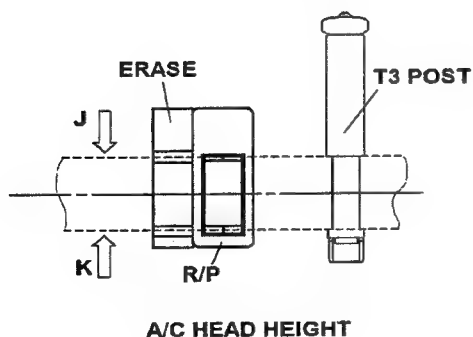
Specification	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
Mode	ATF Control PLAY mode
Test Point	TP16: R/P envelope(RF Board:H4) TP1: TRIG.(RF Board:H4)
Equipment	Oscilloscope
Adjustment	S1, T1 Post Height
Tool	VFK1149 (Post Driver)
Tape	<b>NTSC:</b> VFM3010EDS (Consumer DV Color Bar) <b>PAL:</b> VFM3110EDS (Consumer DV Color Bar)

1. Playback the alignment tape VFM3010EDS and confirm the envelop is in the specification.
2. If it is not, adjust the previous item again.

## 5-22. A/C Head Adjustment method

Adjustment Item	Screw	Adjustment Method
A/C Head Tilt Adjustment	A VFK1178	Tighten direction — Decrease CUE Loosen direction — Increase CUE
A/C Head Height	B VFK1150	Tighten direction — Output increase when tape is up (arrow k) Loosen direction — Output increase when tape is down (arrow j)
Azimuth	F VFK1148	Phase is adjusted by screw F.
A/C Head Horizontal Position (Torque 2.5kg.cm)	C D VFK1209 VFK0912	Adjust X value by VFK0357 (Eccentric screwdriver) at long hole. Then tighten the screw C and D to fix the A/C head horizontal position.
A/C Head Tilt (Torque 1kg.cm)	G Same C and D	Screw G — Always be tighten during adjustment.
A/C Head Fix	H VFK1190	Screw H — After height adjustment, tighten the screw H to fix the A/C head height.

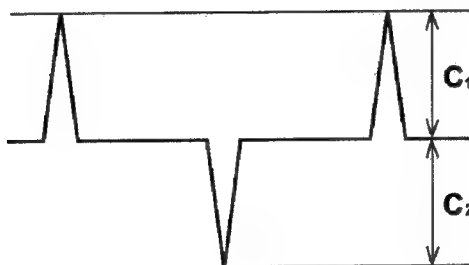
1. Always the screw G must be tightened while each adjustments is done.
2. After the A/C head tilt adjustment, confirm the screw A is not loosen. (The screw A must be touch with the A/C head set plate.)
3. After the A/C head tilt adjustment, confirm the tape damage at T3 post.
4. When A/C head height is adjusted, loosen the screw H to start, and after adjustment completion, tighten screw B.
5. Each adjustment must be completed with tightening the screw.
6. Each adjustment must be alternately adjusted or confirmed with the envelope exit side adjustment.



## 5-23. A/C Head Height Adjustment

Specification	CTL Output : $C_1, C_2 \geq 1.8(V)$
Mode	PLAY
Test Point	TP30 : CTL Output (Servo board : F1)
Equipment	Oscilloscope
Adjustment	A/C Head Screw B, H
Tool	VFK1150 (Box driver), VFK1190 (Hex)
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion) * Dubbing tape is recommendable

1. Connect the scope to TP30 on the Servo board, and adjust the A/C head height so that the CTL output level is in the specification.
2. To adjust the height, loosen the screw H and adjust by nut B.
3. When A/C head height is changed, the Azimuth is changed also, so adjust A/C head height and A/C azimuth adjustment alternately.
4. When the screw H is tighten, the A/C head tilt is changed, so the confirmation must be done after tightening the screw H.

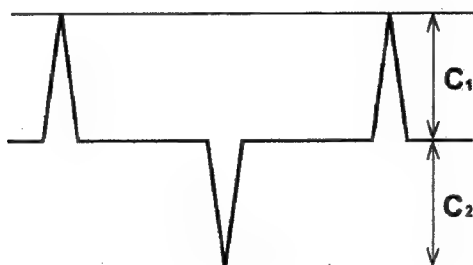




## 5-24. A/C Head Azimuth Adjustment

Specification	CTL Output : C1、C2 = C1 max、C2 max
Mode	PLAY
Test Point	TP30 : CTL Output (Servo board : F1)
Equipment	Oscilloscope
Adjustment	A/C Head Screw F
Tool	VFK1148 (Box driver)
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM(Alignment Tape No.1 Color Bar Portion) * Dubbing tape is recommendable

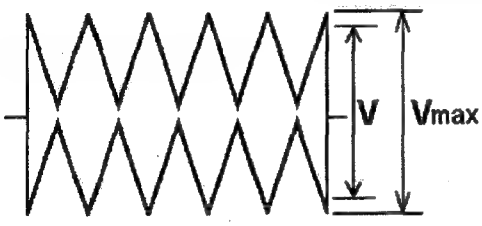
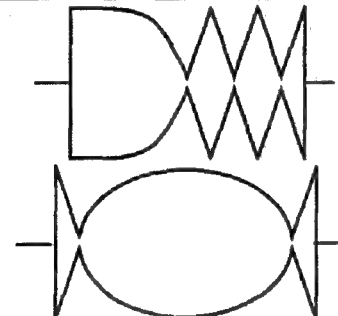
1. Connect the scope to TP30 on the Servo board (F1) and adjust the Screw F so that the CTL Output becomes maximum.
2. When the A/C Head Azimuth is changed, the A/C Head Height is changed also, so adjust A/C head height and A/C azimuth adjustment alternately.



## 5-25. Confirmation of Envelope of REV, REW, FF mode

Specification	Refer to the following figure.
Mode	REV , REW and FF
Test Point	TP16:R/P Envelope (RF board : H4)
Equipment	Oscilloscope
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM(Alignment Tape No.1 Color Bar Portion)

Envelope waveform confirmation

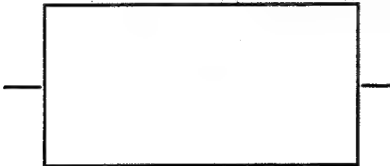

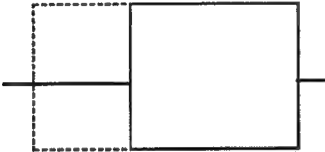
Mode: REV , REW and FF	Evaluation
	<p>OK</p> <ul style="list-style-type: none"> <li>•Waveform must be diamond style.</li> <li>•All The peak must be more than 90% of the maximum level.</li> </ul> <p><math>V/V_{max} \geq 0.9</math></p>
	<p>NG</p>

1. Connect the scope to TP16 and confirm the envelope style is in the specification in REV, REW and FF mode.
2. If it is out of specification , adjust S4 Post(Tension Post) Height again.

## 5-26. Confirmation of PLAY Start Envelope

Specification	In the Play mode envelope become flat momentarily.
Mode	FF → PLAY REV and REW → PLAY Loading Completion → PLAY
Test Point	TP16 : R/P Envelope (RF Board : H4)
Equipment	Oscilloscope
Tape	Recorded L Cassette (123min.) Tape Begin

### Envelope Confirmation

PLAY Start	Evaluation
	<b>OK</b> (Envelope becomes flat momentarily)
 	<b>NG</b>

1. Observe the envelope by oscilloscope and confirm the envelope is in the specification in the transition from FF to PLAY, from REW to PLAY, from REV to PLAY and from Loading completion to PLAY.
2. If it is not adjust S4 Post Height (ITEM 5-27).
3. This adjustment must be done after Envelope Waveform Adjustment.

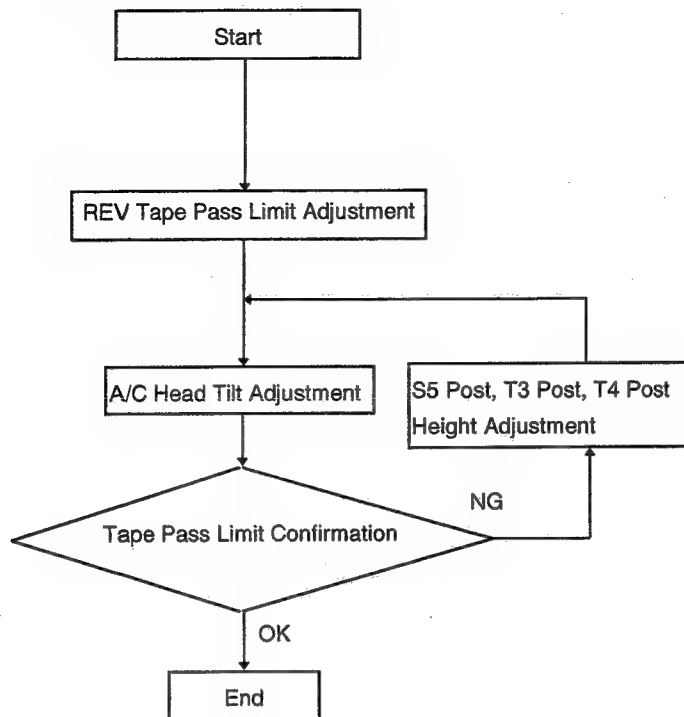
## 5-27. S4 Tension Post Height Adjustment

Specification	Envelope becomes flat momentarily at PLAY start.
Mode	PLAY
Adjustment	Tension Post (S4 Post) S1 and T1 Post
Equipment	Oscilloscope
Tool	VFK1149 (Post Driver)
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM(Alignment Tape No.1 Color Bar Portion)

※ This adjustment should be done when the 5-20 "Envelope Waveform Adjustment", 5-25 "Confirmation of Envelope of REV, REW, FF mode" or 5-26 "Confirmation of Play Start Envelope" can not be achieved the specification.

1. Rotate the S4 tension post height 90 degrees CCW (counterclockwise).
2. Adjust S1 and T1 post height again. Refer to the 5-20 "Envelope Waveform Adjustment".
3. Confirm the Play Start envelope waveform (Item 5-26).
4. If it is not in the specification, repeat item 1 to 3. The maximum rotation angle is 360 degrees.
5. Even the height is out of specification, confirm 5-5 "Post Height Pre Adjustment".

## 5-28. Tape Limitation Confirmation Procedures



The Tape Pass Limit Confirmation must be done with MP Tape (M cassette) and ME Tape (S cassette).

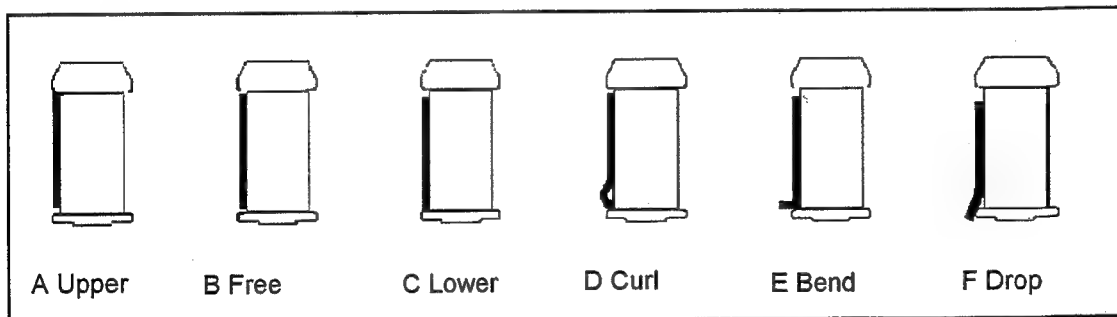
## 5-29. REV Tape Pass Limit Adjustment

Specification	Confirm the each post limitation is as shown in the table.
Mode	REV
Tool	VFK1149(Post Driver) VFK1151(Box Driver 2.5mm) VFK1178(0.89mm)···Screw A VFK1148(1.5mm)···Screw G
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion)

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	○	○	○	X	X	X	S5 Post	
S4 Tension Post	X	○	○	X	X	X	Tension Post Height	
S1 Post	○	X	X	X	X	X	(Envelope Adjustment)	
T1 Post	○	○	○	X	X	X		
T3 Post	X	X	○	X	X	X	T3 Post Height	
T4 Post	X	X	○	X	X	X	T4 Post Height	

○ means acceptable. X means not acceptable.

1. Place unit into REV mode, and adjust T4 so that the Lower limit touch the tape.
2. Confirm the T4 post is at lower limit, then adjust T3 post is at lower limit.
3. Confirm the tape pass limit of each post.
4. These adjustment must be done after envelope waveform adjustment.

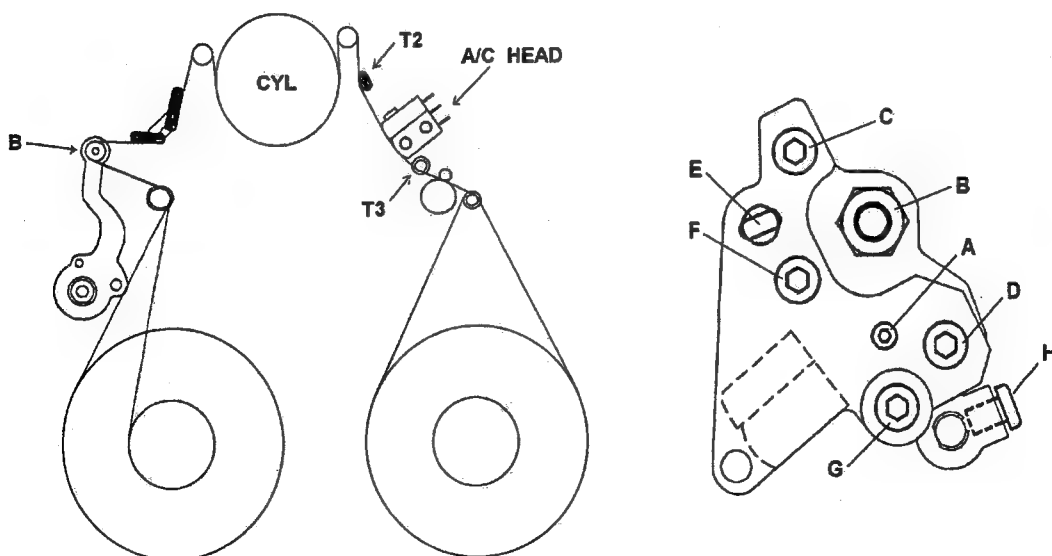


### 5-30. A/C Head Tilt Adjustment

Specification	T3 post must be lower limit in PLAY mode. No tape damage and no tape curling
Mode	PLAY
Adjustment	A/C Head screw A, G
Tool	VFK1178 (0.89 mm) — Screw A VFK1148 (1.5 mm) — Screw G
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 Color Bar Portion)

Adjustment Item	Screw	Adjustment Method
A/C Head Tilt Adjustment	A	Tighten direction — Tape is up at T3 Post. Loosen direction — Tape is down at T3 Post.
A/C Head Fix (Torque = 1.0 kg cm)	G	Keep tightening for each adjustment.

1. This adjustment must be done after "REV Tape Pass Limit Adjustment".
2. Place the VTR in PLAY mode, and confirm the T3 Post limit and adjust A/C head tilt is in the specification.
3. When complete the A/C head adjustment, final direction of screw rotation must be tighten direction.
4. Adjust alternately with each A/C head adjustment (Azimuth, Height ).



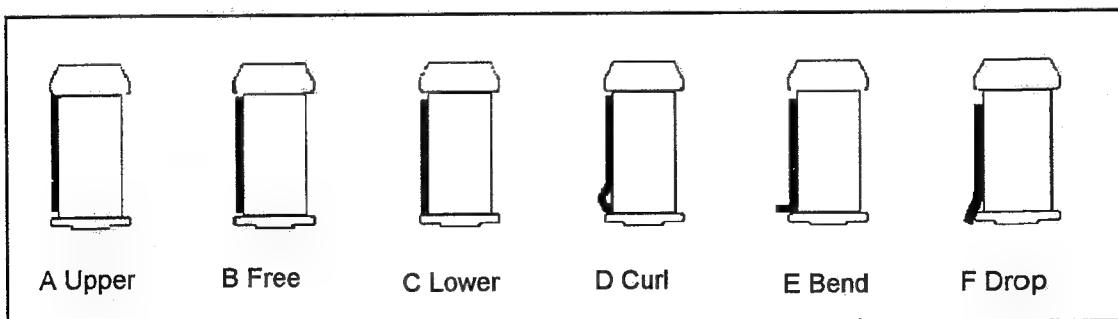
### 5-31. PLAY Tape Pass Limit Confirmation

Specification	Confirm the each post limitation is as shown in the table.
Mode	PLAY
Tool	VFK1149(Post Driver) VFK1151(Box Driver 2.5mm) VFK1178(0.89mm)···Screw A VFK1148(1.5mm)···Screw G
Tape	M Cassette (MP Tape) Tape Begin and Tape End S Cassette (ME Tape) Tape Begin and Tape End

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	X	○	○	X	X	X	S5 Post	
S4 Tension Post	X	X	○	X	X	X	Tension Post Height	
S1 Post	○	X	X	X	X	X	(Envelope Adjustment)	
T1 Post	○	X	X	X	X	X		
T3 Post	X	X	○	X	X	X	T3 Post Height A/C Head Tilt	
T4 Post	X	○	○	X	X	X	T4 Post Height	

○ means acceptable. X means not acceptable.

1. Place the unit into PLAY mode, and confirm the each post limit is in the specification as shown in the upper table.
2. This adjustment must be done after "Envelope Waveform Adjustment".
3. If it is out of specification, adjust each item again.
4. If A/C head tilt is out of specification adjust "A/C Head Tilt Adjustment".
5. Regarding T3 and T4 posts, confirm and adjust this confirmation alternately with "REV Tape Pass Limit Confirmation" and "Loading Tape Pass Limit Confirmation".
6. Confirm the tape pass limit for both M cassette and S cassette.





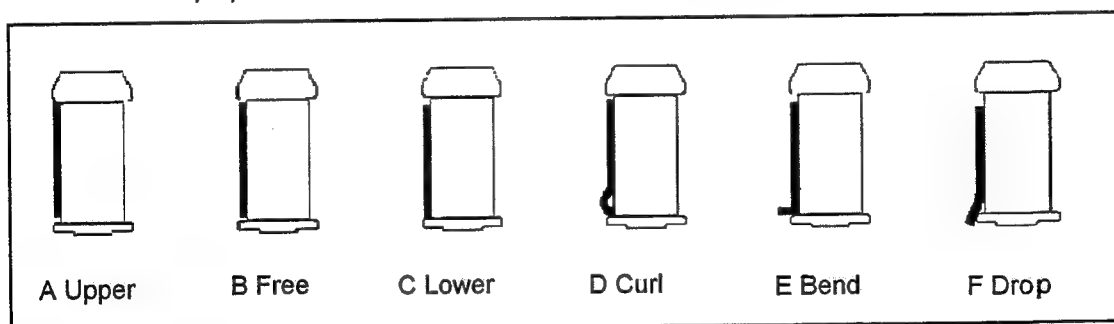
## 5-32. REV Tape Pass Limit Confirmation

Specification	Confirm the each post limitation is as shown in the table.
Mode	PLAY
Tool	VFK1149(Post Driver) VFK1151(Box Driver 2.5mm)
Tape	M Cassette (MP Tape) Tape Begin and Tape End S Cassette (ME Tape) Tape Begin and Tape End

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	○	○	○	X	X	X	S5 Post	
S4 Tension Post	X	○	○	X	X	X	Tension Post Height	
S1 Post	○	X	X	X	X	X	(Envelope Adjustment)	
T1 Post	○	○	○	X	X	X		
T3 Post	X	X	○	X	X	X	T3 Post Height	
T4 Post	X	X	○	X	X	X	T4 Post Height	

○ means acceptable. X means not acceptable.

1. Place the unit into REV mode, and confirm the each post limit is in the specification as shown in the upper table.
2. This adjustment must be done after "Envelope Waveform Adjustment".
3. If it is out of specification, adjust each item again.
4. This adjustment should be done alternately with PLAY Limit Adjustment.
5. If adjust T3 post, confirm "Loading Tape Pass Limit Confirmation".
6. Confirm the tape pass limit for both M cassette and S cassette.



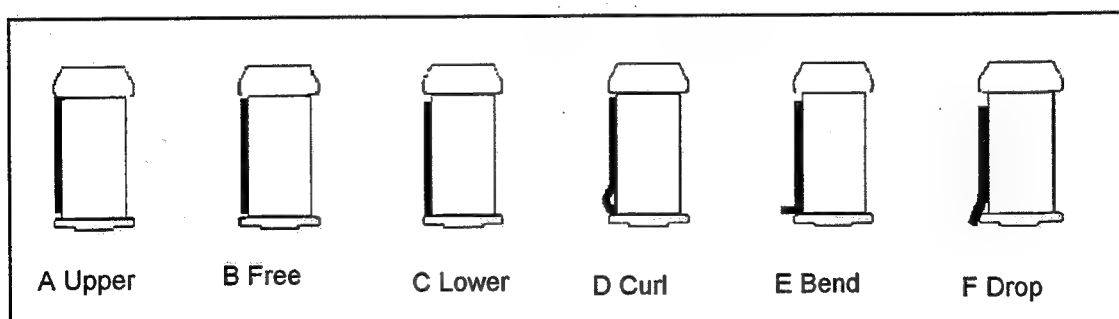
### 5-33. FF, REW Tape Pass Limit Confirmation

Specification	Confirm the each post limitation is as shown in the table.
Mode	FF, REW
Tool	VFK1149(Post Driver) VFK1151(Box Driver 2.5mm)
Tape	M Cassette (MP Tape) Tape Begin and Tape End S Cassette (ME Tape) Tape Begin and Tape End

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 Post	○	○	○	X	X	X	S5 Post	
S4 Tension Post	X	○	○	X	X	X	Tension Post Height	
S1 Post	○	X	X	X	X	X	(Envelope Adjustment)	
T1 Post	○	○	○	X	X	X		
T3 Post	○	○	○	X	X	X	T3 Post Height	
T4 Post	X	○	○	X	X	X	T4 Post Height	

○ means acceptable. X means not acceptable.

1. Place the unit into FF and REW mode, and confirm the each post limit is in the specification as shown in the upper table.
2. This adjustment must be done after "Envelope Waveform Adjustment".
3. If it is out of specification, adjust each item again.
4. This adjustment should be done alternately with PLAY Limit Adjustment.
5. If adjust T3 post, confirm "Loading Tape Pass Limit Confirmation".
6. Confirm the tape pass limit for both M cassette and S cassette.



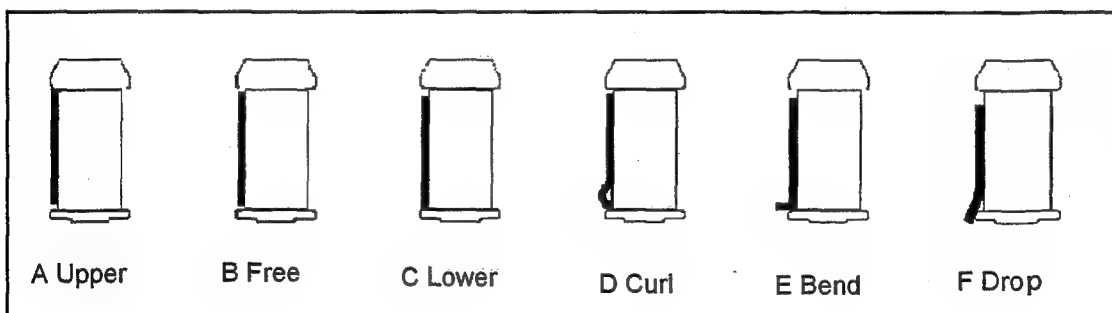
### 5-34. Loading Tape Pass Limit Confirmation

Specification	Confirm the T3 post limitation is as shown in the table.
Mode	LOADING / UNLOADING
Tool	VFK1151(Box Driver 2.5mm)
Tape	M Cassette (MP Tape) Tape Begin and Tape End S Cassette (ME Tape) Tape Begin and Tape End

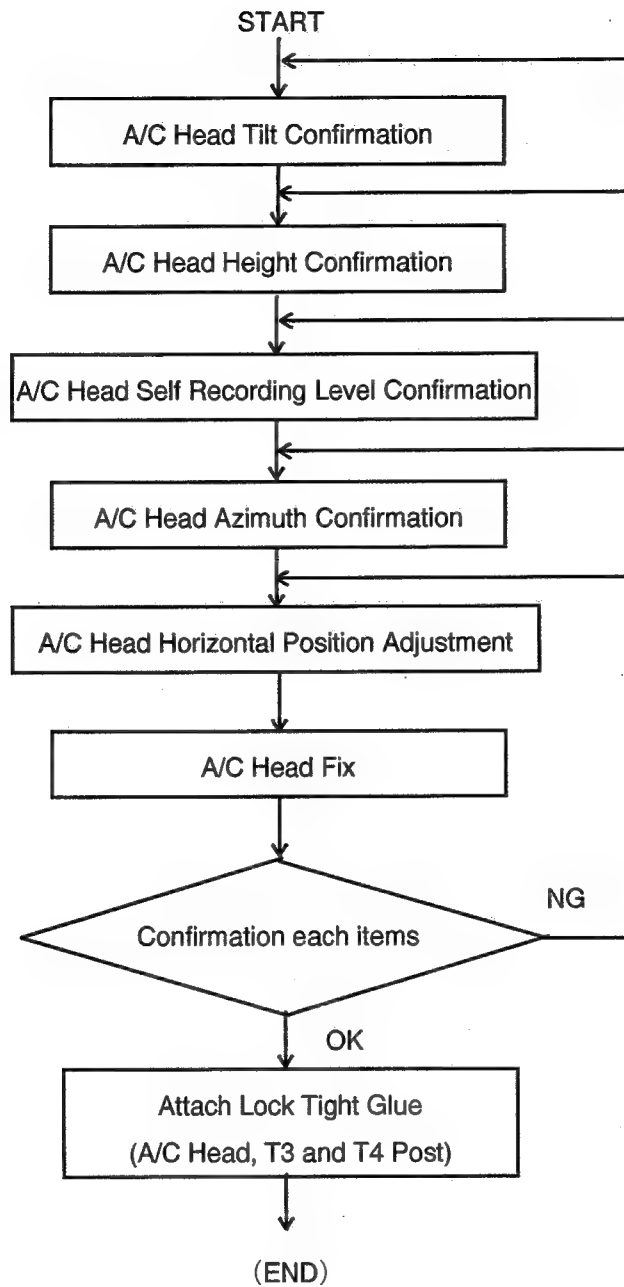
Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
T3 Post	○	○	○	X	X	X	T3 Post Height	

○ means acceptable. X means not acceptable.

1. Place unit into Loading condition, then confirm that the tape damage occurred or not at lower limit of T3 post and adjust the T3 post so that the post limit is within specification as shown in the upper table.
2. When confirm that the tape pass limit on the Loading condition as above item, practice alternately with "PLAY Tape Pass Limit Confirmation" and "REV Tape Pass Limit Confirmation" procedure.
3. If the T3 post is became too much lower limit at the timing of rising on Playback mode, down the height of T3 post a little and practice again the "PLAY Tape Pass Limit Confirmation", "REV Tape Pass Limit Confirmation" and "A/C Head Tilt Adjustment" procedure.
4. Confirm the tape pass limit for both M cassette and S cassette.



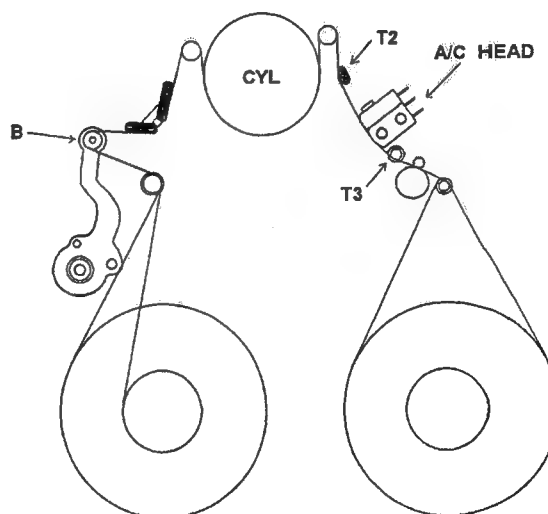
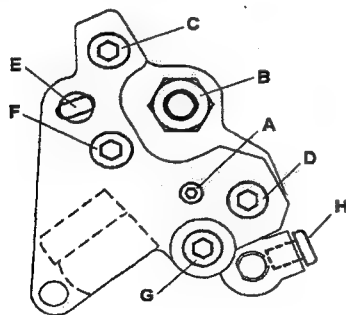
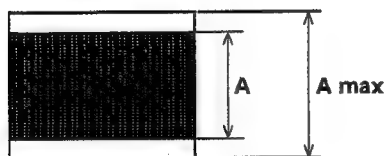
### 5-35. A/C Head Confirmation Procedures



## 5-36. A/C Head Tilt Confirmation

Specification	CUE Output : $A/A_{max} \geq 0.9$
Mode	PLAY
Test Point	TP4381 : ADDA CUE board (F8)
Equipment	Oscilloscope
Adjustment	A/C head Screw A, G
Tool	VFK1178 (Hex Screw 0.89 mm) for Screw A VFK1148 (Hex Screw 1.5 mm) for Screw G
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 14 min. ~ 22 min.) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 14 min. ~ 22 min.)

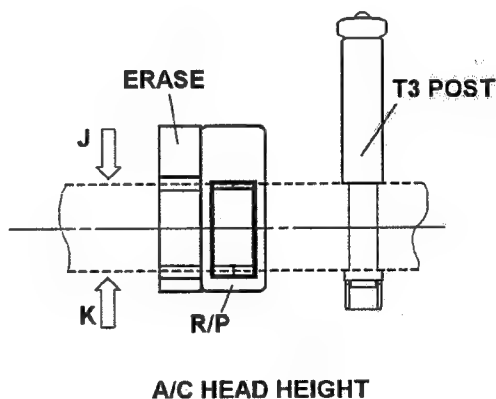
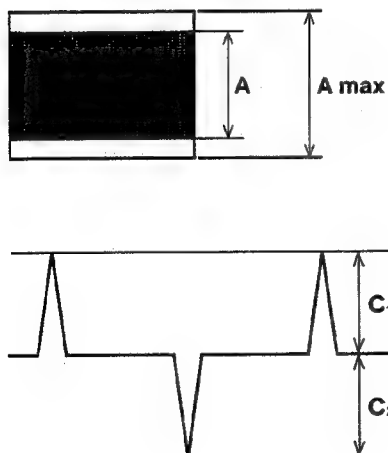
1. Playback the Alignment tape CUE 6 KHz part.
2. Confirm the screw G and H are not loosen. Then Connect the scope to TP4381 to observe the CUE output. Vibrate the tension arm to B direction, and confirm the output level variation is in the specification.
3. When complete the adjustment, final screw rotate direction must be tighten direction, and confirm the Screw A is not loosen.
4. When adjust the screw A, loosen screw G and adjust screw A, then tighten screw G.
5. The A/C Head Tilt adjustment effects the T3 post limitation, so adjust item "Play limitation confirmation" again.



## 5-37. A/C Head Height Confirmation

Specification	CUE Output : $A = A_{\max}$ CTL Output : $C_1, C_2 \geq 1.8(V)$
Mode	PLAY
Test Point	TP4381: ADDA CUE BOARD (F8) TP30 :Servo BOARD(F1)
Equipment	Oscilloscope
Adjustment	A/C head Screw B, H
Tool	VFK1150 (Box Driver 5.5 mm) for Screw B VFK1190 (L type Hex Screw 1.5 mm) for Screw H
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 14 min.~22 min.) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 14 min.~22 min.)

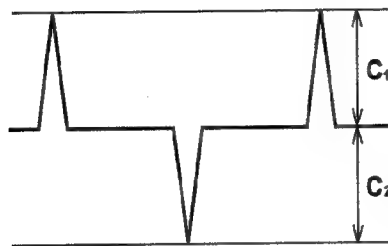
1. Playback the Alignment tape CUE 6 KHz part.
2. Connect the scope to TP4381 on ADDA CUE board and confirm the CUE output level is not increased even the tape is moved j and k arrow direction.
3. When A/C Head Height is changed, the A/C Head Azimuth is changed also, so adjust and confirm alternately A/C Head Azimuth and A/C Head height.
4. The A/C Head tilt is changed by tightening the screw H, so the confirmation of specification must be done after tightening the screw H.



### 5-38. A/C Head Self Recording Level Confirmation

Specification	CTL Output Level PLAY : C1, C2 $\geq$ 1.8 V REV (-1 x) : C1, C2 $\geq$ 1.4 V REV (-0.2 x) : C1, C2 $\geq$ 1.2 V
Mode	PLAY REV (-1x, -0.2 x)
Test Point	TP30: CTL Output (Servo board : F1)
Equipment	Oscilloscope
Tape	Work Tape for Rec and Play

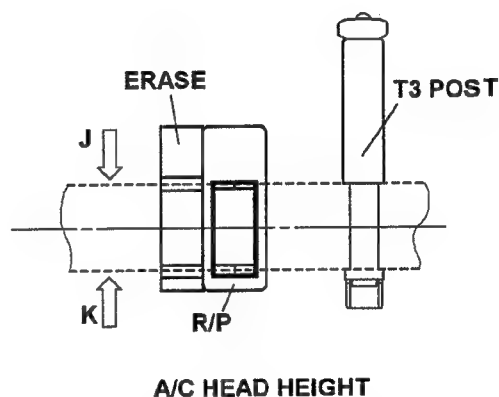
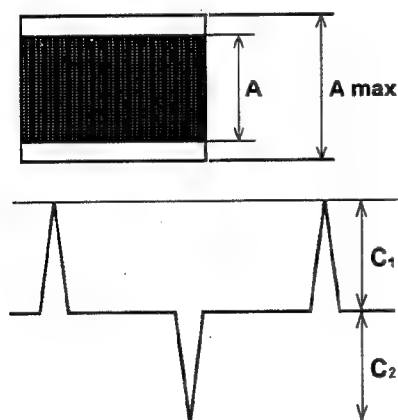
1. Record and Playback by a work tape.
2. Connect the scope to TP30 and confirm the CTL level is in the specification.
3. This confirmation should be done after the screws are fixed.
4. If it is not in the specification, adjust "A/C Head Height" again.



### 5-39. A/C Head Azimuth Confirmation

Specification	CUE Output : $A = A_{max}$ CTL Output : $C_1, C_2 \geq 1.8(V)$
Mode	PLAY
Test Point	TP4381: ADDA CUE BOARD (F8) TP30 :Servo BOARD(F1)
Equipment	Oscilloscope
Adjustment	_____
Tool	_____
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 14 min.~22 min.) <b>PAL:</b> VFM3680KM (Alignment Tape No.1 14 min.~22 min.)

1. Playback the Alignment tape CUE 6 KHz part.
2. Connect the scope to TP4381 on ADDA CUE board and confirm the CUE output level is not increased even the tape is moved to j and k arrow direction.
3. If the output level is increased, adjust "Tape Pass Adjustment procedures" again.

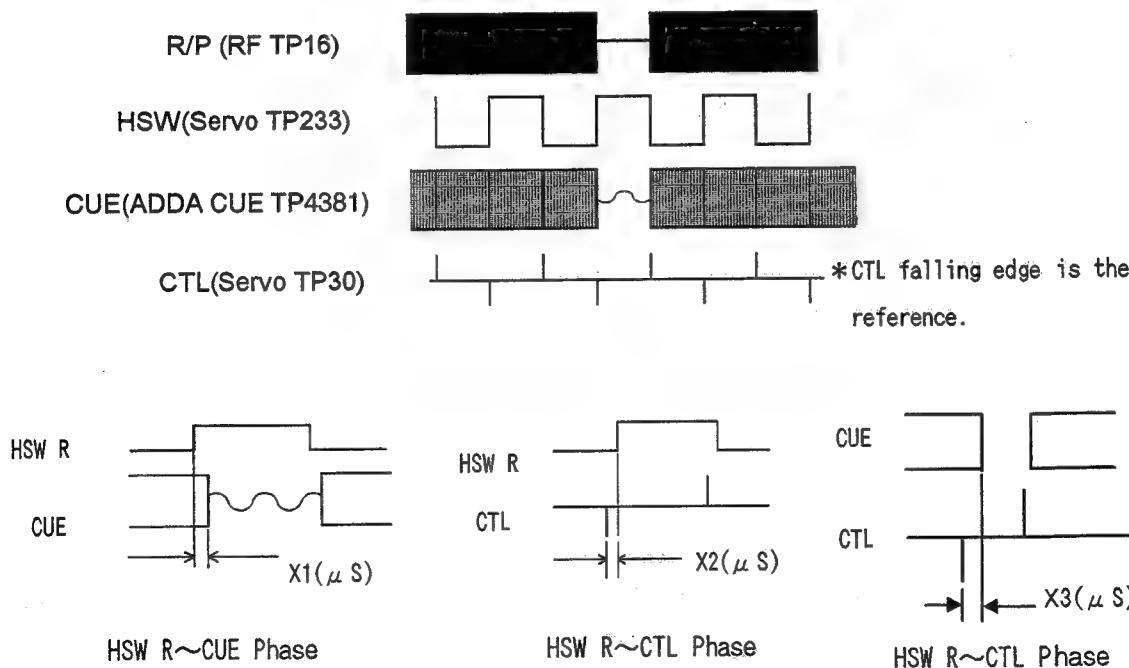




## 5-40. A/C Head Horizontal Position Adjustment

Specification	As shown in the below figure. $-250 \mu S \leq X1, X2, X3 \leq 250 \mu S$
Mode	ATF control, PLAY mode
Test Point	TP16 :R/P Envelope (RF board : H4) TP233 : HSW_R(Servo board :F1) TP4381: CUE Output(ADDA CUE board : F8) TP30 :CTL Output(Servo BOARD : F1)
Equipment	Oscilloscope
Adjustment	A/C Head each screws
Tool	VFK0357(Eccentric driver), Hex driver
Tape	<b>NTSC:</b> VFM3582KM (X Value Master Tape) <b>PAL:</b> VFM3682KM (X Value Master Tape)

1. Adjust A/C Head Azimuth so that the CTL and Lack part of CUE is match in the phase.
2. Confirm the R/P envelope lack track, and select the HSW correspond with it. ( The lack track is corresponded HSW High with L ch.)
3. Adjust CUE phase ( A/C Head Horizontal Position ) so that the selected HSW is match in the phase with the Lack part of CUE.
4. At this time, adjust the phase simultaneously with Azimuth so that the CTL and CUE phase is kept matching in the phase.
5. Confirm the selected HSW, CUE and CTL are match in phase.

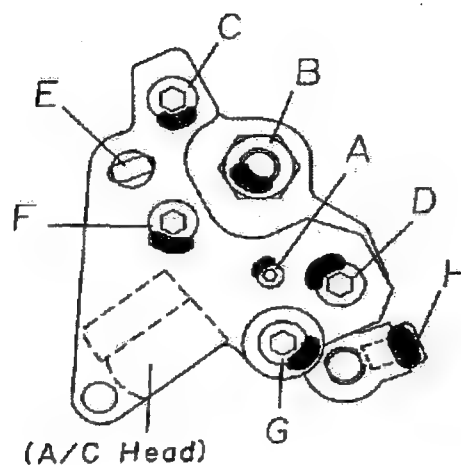


Note: If the waveform could not be stabilized by trigger (HSW or CTL) or the scope, please use the TP1100 (RFCF) on the V OUT P.C. board (F4) for trigger.

### 5-41. A/C Head Screw Lock Tight Grew

	Screw A	Other Screw
Lock Tight Grew Quantity	1/3 of the screw	1/3 of the screw

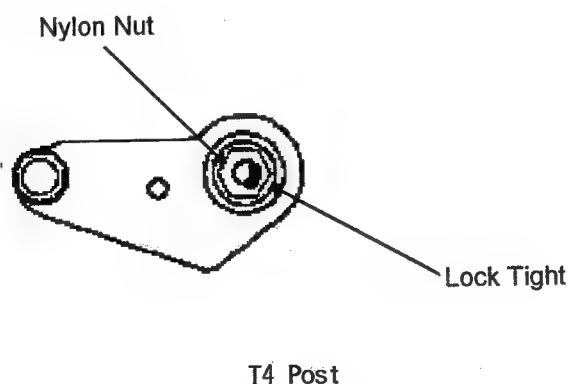
1. Fix the screws by Lock Tight Grew after adjustment.
2. Before adjustment, melt the grew.



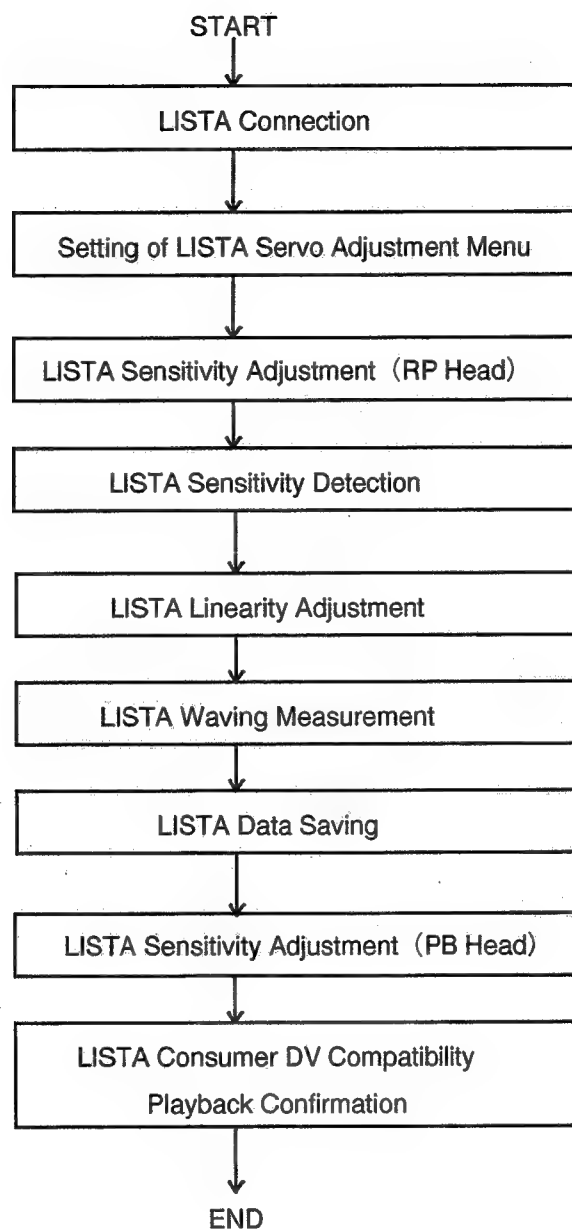
### 5-42. T3 Post, T4 Post Lock Tight Grew

	T3 Post	T4 Post
Lock Tight Grew quantity	1/4 of the screw	1/4 of the screw

1. After adjustment, attach the lock tight grew at the nylon nut.
2. Before adjustment, melt the grew.



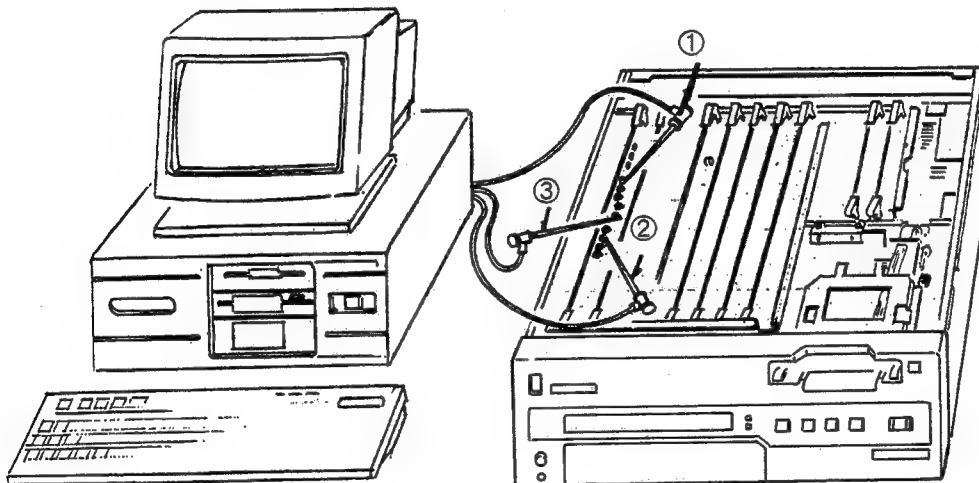
## 5-43. LISTA Adjustment Procedures



#### 5-44. LISTA Connection

Test Point	TP321:ATF error(Servo BOARD : F1) TP233:HSW_R/P (Servo BOARD : F1) TP232:HSW_PB (Servo BOARD : F1) TG510:GND (Servo BOARD : F1)
Equipment	LISTA set
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

1. Connect the probe for LISTA A/D board to the test points as shown in the table.  
Note: HSW is connected to TP232 only for 5-51 "LISTA sensitivity adjustment (PB Head)", and HSW is connected to TP233 for all other adjustment .
2. Prepare the LISTA menu, and select AJ-D750 (item 1 ) on the menu.
3. Select the number of the master tape. If the master tape data is not registered, input the master tape data into PC manually.
4. LISTA menu is started.



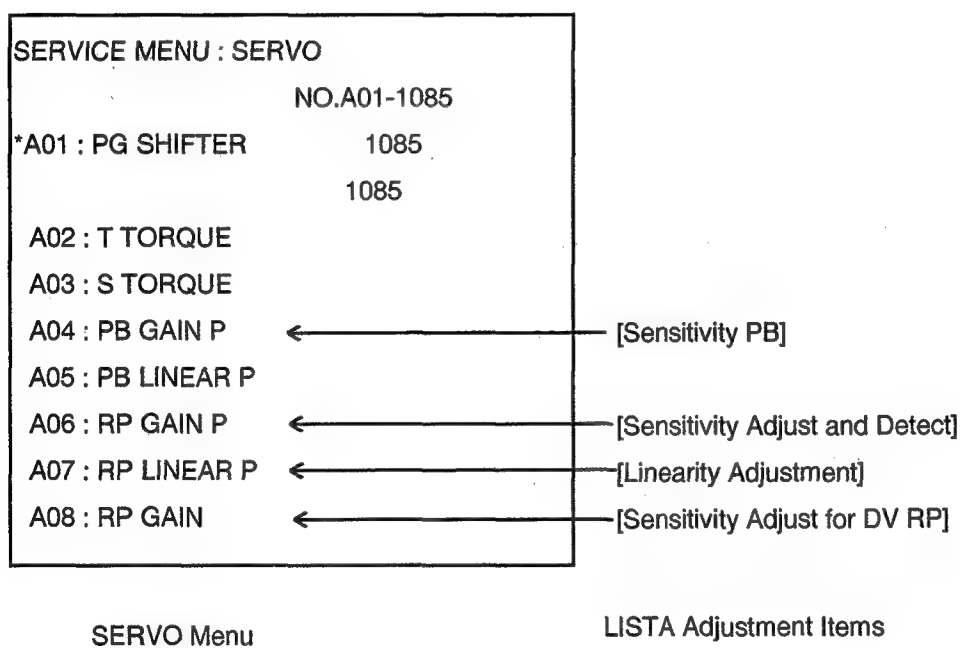
Connection of LISTA cable to Servo P.C.Board.(F1).

- ① To TP321 (ATF Error)
- ② To TP233 (HSW : R/P) or TP232(HSW : PB)
- ③ To TG510 (GND)

※LISTA cable is connected to A/D converter P.C.Board, which is installed to the Computer.

## 5-45. Setting of LISTA Servo Adjustment Menu

1. Connect the TV monitor to the VIDEO OUT 3.
2. Press the MENU button in the pocket at bottom of the front panel, then "SET-UP MENU" appears.
3. Pressing the EJECT button and the STOP button simultaneously, press the MENU button. Then "SERVICE MENU" appears.
4. Move the "\*" mark by ▲ button and ▼ button to A00 : SERVO ADJUST, and press the "SET" button. Then "Servo Adjustment Menu" is displayed.
5. Move the "\*" mark by ▲ button and ▼ button and select the necessary Servo Mode.  
Refer to the each adjustment procedures for more detail.
6. After completion of adjustment, press the MENU button again and exit from SERVICE MENU.



## 5-46. LISTA Sensitivity Adjustment (R/P Head )

Specification	Sensitivity $150 \pm 15 (\text{mV} / \mu \text{m})$
Mode	Servo Adjustment Menu: [A06 RP GAIN P]
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Adjustment	ATF Gain (Select by ◀ and ▶ buttons)
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

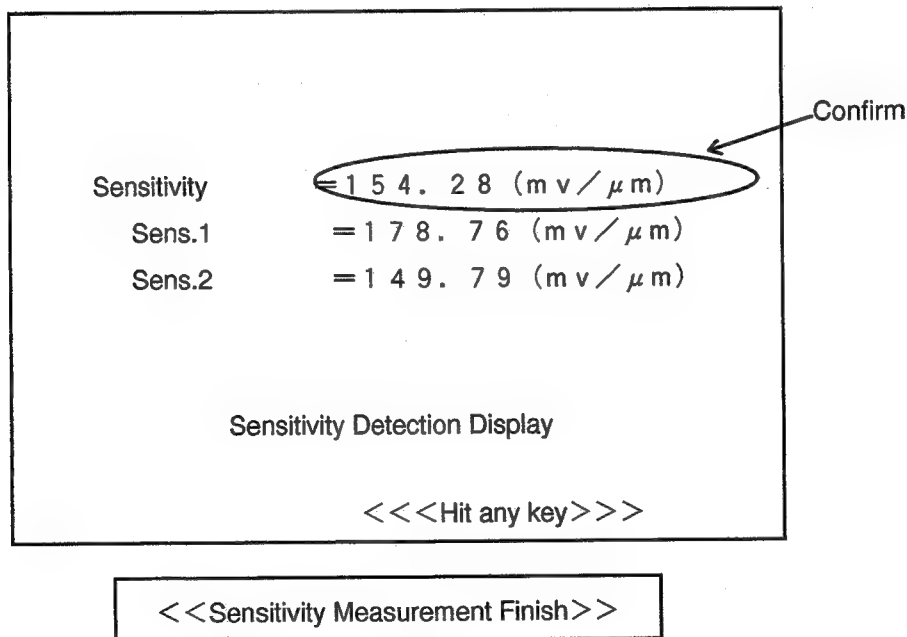
1. Display the Servo menu, and select "A06 RP GAIN P".
2. Playback the LISTA Master Tape.
3. Select the LISTA Menu " (6) ATF Error Signal Monitor " and display the sensitivity data in real time.
4. When the sensitivity data is displayed, adjust ATF Gain so that the sensitivity value at right-up on the monitor is within specification.
5. After Adjustment, press ESC key and exit to the menu mode.

※ ATF Gain is adjusted by pressing ◀ button and ▶ button.

## 5-47. LISTA Sensitivity Detection

Specification	Sensitivity $150 \pm 15 (\text{mV} / \mu\text{m})$
Mode	Servo Adjustment Menu : "A06 RP GAIN P"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

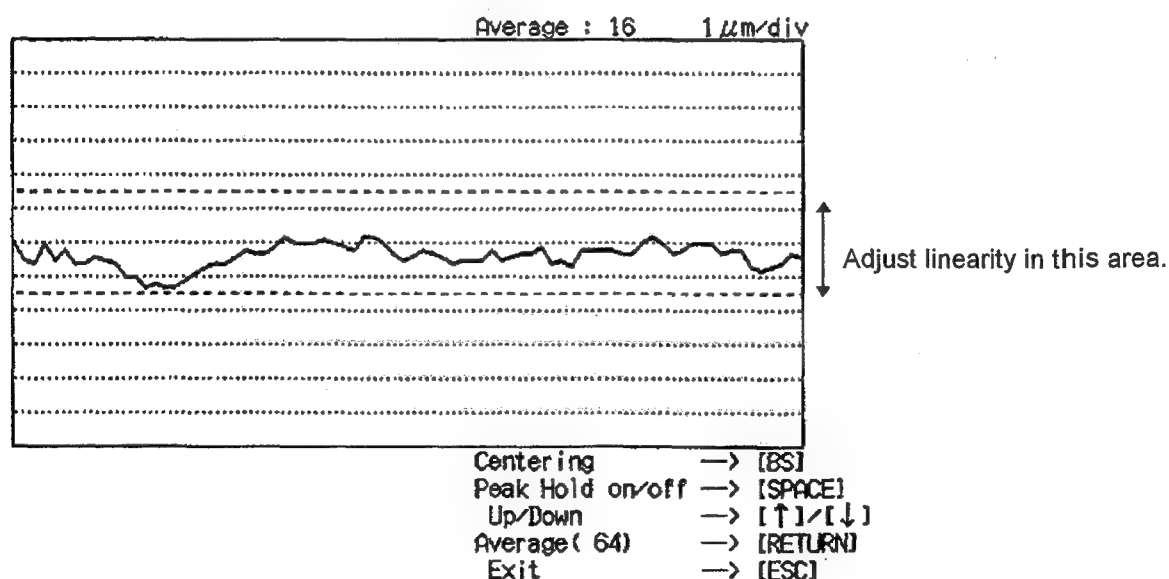
1. Display the Servo menu and select [A06 RP GAIN P].
2. Playback the LISTA Master Tape
  - Item 1 and 2 can be omitted after "LISTA Sensitivity Adjustment (R/P)".
3. Select the [(1) Sensitivity Measurement] and start Sensitivity Detection.
4. When the sensitivity is displayed, confirm the sensitivity is in the specification.
5. If it is out of specification, repeat the "LISTA Sensitivity Adjustment (R/P)".



## 5-48. LISTA Linearity Adjustment

Specification	Linearity: Less than 3 $\mu$ m
Mode	Servo Adjustment Menu : "A07 RP LINEAR P"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Tool	VFK1149(Post driver)
Adjustment	S1, T1 Post Height
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

1. Display the Servo menu and select the "A07 RP LINEAR P".
2. Playback the LISTA master tape.
3. Select the (2) Linearity Measurement on the LISTA menu, and display the linearity.
4. When linearity is displayed, adjust S1 and T1 post so that the linearity is in the specification.
  - Lower part of the monitor shows the lead.
  - Adjust the waveform is in the red dot lines.
5. Adjustment is done while observing the waveform by the oscilloscope. Adjust the post height so that the envelope is correct.

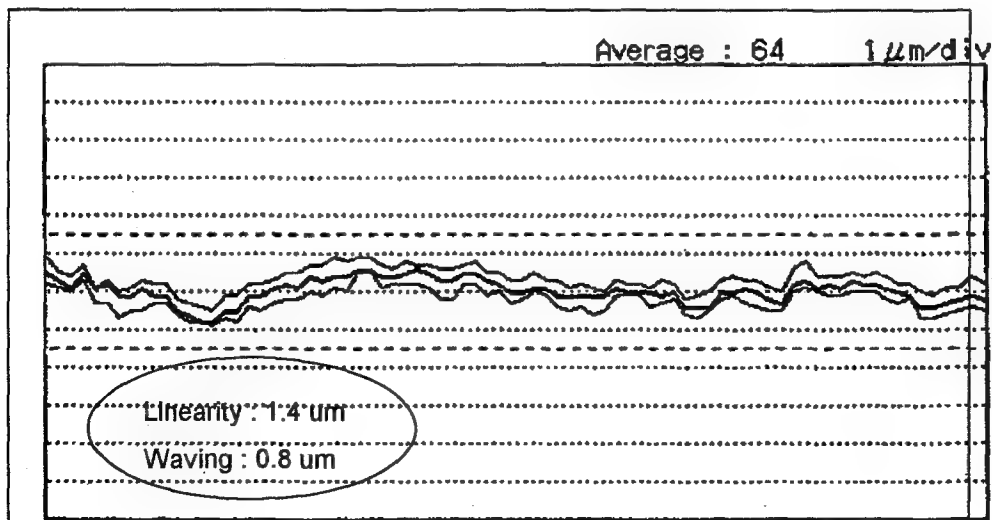




## 5-49. LISTA Waving Measurement

Specification	Waving : Less than 1.5 $\mu$ m
Mode	Servo Adjustment Menu: "A07 RP LINEAR P"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Tool	VFK1149(Post driver)
Adjustment	S1, T1 Post Height
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

1. Display the Servo Adjustment Menu and select " A07 RP LINEAR P ".
2. Playback the LISTA master tape.
3. Select " (2) Linearity Measurement " of LISTA menu, and display the linearity.  
Items 1 through 3 can be omitted just after item 5-48 " Linearity Adjustment".
4. When linearity is displayed, press SPACE key and hold the Peak ( Peak\_Hold) during 30 second.
5. After the Peak\_Hold, display the Waving by pressing "SHIFT" + "{" keys and confirm the waving is in the specification.  
Confirm the waving is same value from entrance to exit of linearity.  
If the waving is out of specification because of bad limit of entrance or exit, adjust S1 and T1 post height again.
6. After completion of adjustment, press ESC key and return to the menu display.



## **5-50. LISTA Data Saving**

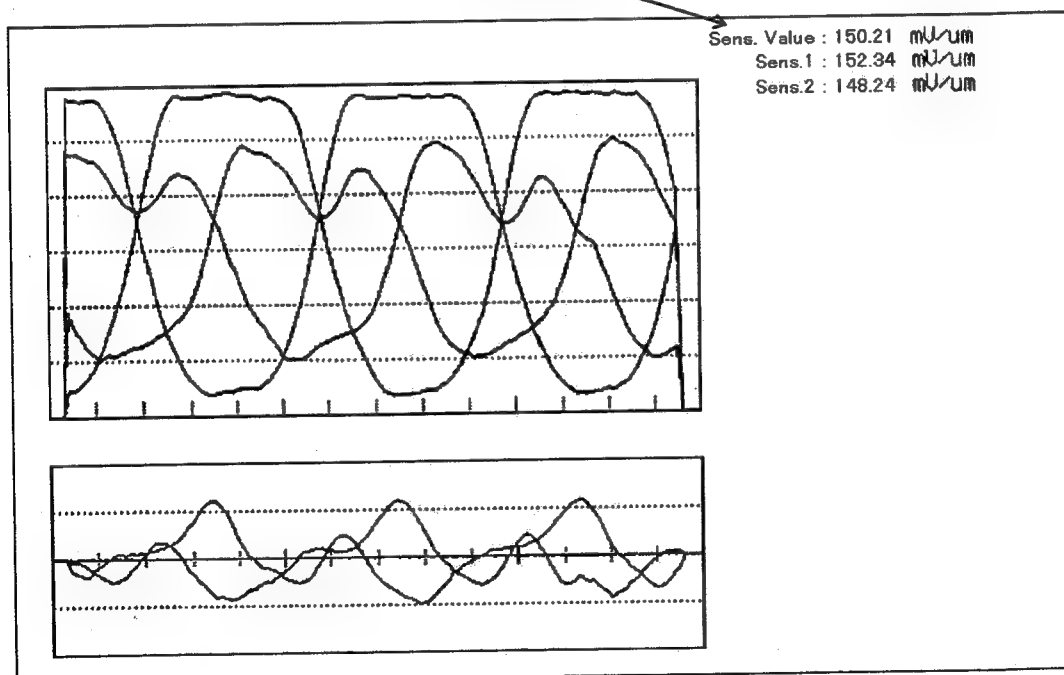
1. This item is done after item 5-49 "LISTA waving measurement".
2. Select the " (3) Data Save / Load " of LISTA menu and select " <1> Save ".
3. When waving measurement result is displayed, save the data.
4. Confirm the data is saved.

## 5-51. LISTA Sensitivity Adjustment ( PB Head )

Specification	Sensitivity $150 \pm 15 (\text{mV} / \mu \text{m})$
Mode	Servo Adjustment Menu : "A04 PB GAIN P"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP232 : HSW_PB (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Adjustment	ATF Gain (Select by ◀ and ▶ buttons)
Tape	<b>NTSC:</b> VFM3581KM ( Alignment tape No.2 LISTA master) <b>PAL:</b> VFM3681KM ( Alignment tape No.2 LISTA master)

1. Display the Servo menu, and select " A04 PB Gain P "
2. Playback the LISTA Master Tape.
3. Select the LISTA Menu " (6) ATF Error Signal Monitor " and display the sensitivity data in real time.
4. When the sensitivity data is displayed, adjust ATF Gain so that the sensitivity value at the upper-right on the monitor is in the specification.
5. ATF Gain is adjusted by pressing ◀ button and ▶ button.
6. After Adjustment, press ESC key and exit to the menu mode.

Adjust this Value in the specification



## 5-52. LISTA Consumer DV Compatibility Playback Confirmation

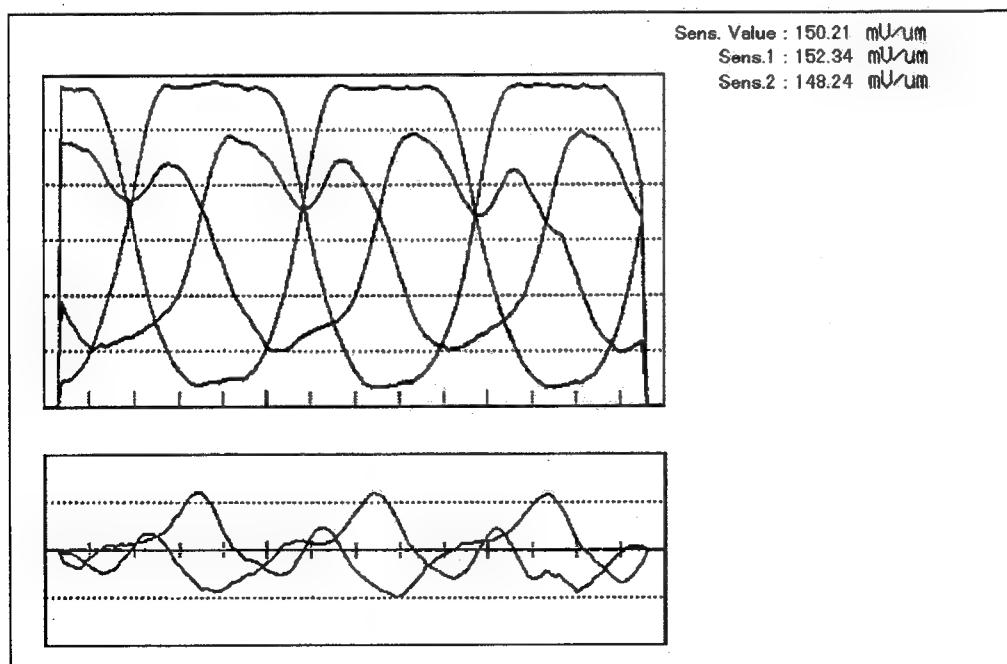
Specification	Sensitivity : $130 \pm 30$ (mV/ $\mu$ m)
Mode	Servo Adjustment Menu: "A08 RP GAIN"
Test Point	TP321 : ATF Error (Servo BOARD : F1) TP233 : HSW_R/P (Servo BOARD : F1) TG510 : GND (Servo BOARD : F1)
Equipment	LISTA Set
Tape	VFM3000EDS ( LISTA Master Tape for consumer DV )

1. Select "A08 RP GAIN" of the Servo Adjustment menu.
2. Select " (4) LISTA Alignment Tape " of LISTA menu and select the "NTSC or PAL" number of DV tape number which is used for adjustment.

**NOTE:** The Alignment tape (VFM3000EDS) is common use NTSC and PAL.

Please be careful select the "NTSC" or "PAL" on the above menu, which is applied to the VTR.

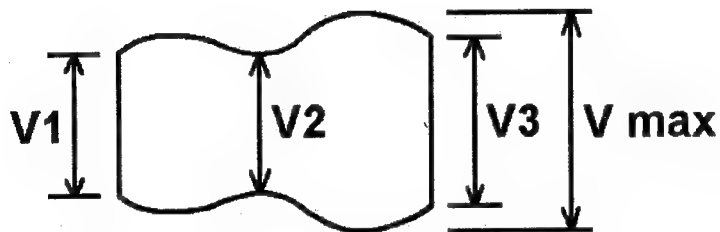
3. Playback the consumer DV LISTA master Tape.
4. Select the " (6) ATF Error Signal Monitor " and display the sensitivity data.
5. When the sensitivity data is displayed, adjust ATF Gain so that the sensitivity value at the upper-right on the monitor is in the specification.
6. ATF Gain is adjusted by pressing ◀ button and ▶ button.
7. After completion of adjustment, press ESC key to return to the menu and select (1) sensitivity Measurement.
8. Confirm the sensitivity value is in the specification.



### 5-53. Playback Envelope Confirmation

Specification	$V1 / V_{max}$ 、 $V2 / V_{max}$ 、 $V3 / V_{max} \geq 0.8$
Mode	A T F Control    P L A Y
Test Point	T P 1 5 : PB Envelope ( R F BOARD : H 4 )
Equipment	Oscilloscope
Adjustment	_____
Tool	_____
Tape	<b>NTSC:</b> VFM3580KM (Alignment Tape No.1 Color Bar Portion) <b>PAL:</b> VFM3680KM(Alignment Tape No.1 Color Bar Portion)

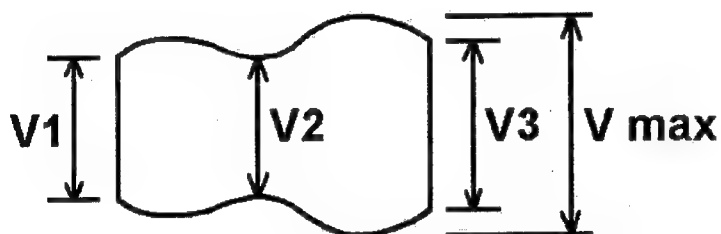
1. After the LISTA adjustment, Playback the color bar portion of the alignment tape.
2. Confirm the Envelope is in the specification.
3. If it is not in the specification, adjust the envelope and adjust LISTA adjustment.



## 5-54. Self Recording Playback Envelope Confirmation

Specification	$V1 / V_{max}$ 、 $V2 / V_{max}$ 、 $V3 / V_{max} \geq 0.8$
Mode	A T F Control    P L A Y
Test Point	T P 1 6 : R / P Envelope ( R F BOARD : H 4 ) T P 1 5 : PB Envelope ( R F BOARD : H 4 )
Equipment	Oscilloscope
Adjustment	_____
Tool	_____
Tape	Work Tape for self recording and playback

1. After the LISTA adjustment, recording color bar and playback the recorded portion.
2. Confirm the Envelope is in the specification.
3. If it is not in the specification, adjust the envelope and adjust LISTA adjustment.



# SECTION 4

## ELECTRICAL ADJUSTMENT

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# 1 Servo Circuit Adjustment

## 1 - 1 Motor Torque Offset Adjustment

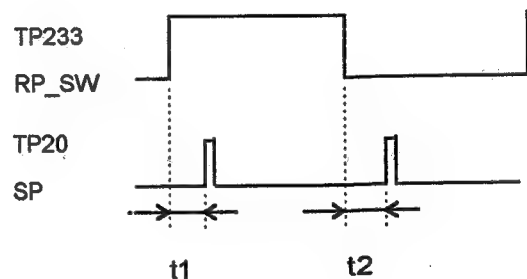
BOARD	SERVO (F1)
SPEC.	15 $\pm$ 2g (5 times average)
TEST	Connect Monitor TV to VIDEO OUT3
ADJUST	Cursor button
INPUT	
MODE	EJECT (Test mode)
TAPE	No Tape
M.EQ	VFK1191 (Torque Meter) VFK1152 (Adapter)

1. Turns Power off. Remove the front loading unit with the connection cable or remove the Top Plate of front loading unit, which is fixed by 4 screws.. Then turns Power on.
2. Open the Service menu.
  - ① Press the menu button.
  - ② While pressing the eject key and the stop key, Press the menu key.
3. Set the marker at SERVO by the cursor button(▲, ▼), and set SET\_SW to ON.
4. Select T\_REEL\_TRQ mode by the cursor button.
5. Set a Torque Meter at Take-up Reel and adjust the torque in specification by cursor (<,>). Measure it 5 times and calculate the average, and adjust it so that the average is in the specification.
6. Select S-REEL-TRQ mode.
7. Set a Torque Meter at S-REEL and adjust the torque in specification by the cursor (<,>). Measure it 5 times and calculate the average, and adjust it so that the average is in the specification.
8. After adjustment, press the Menu button twice for the VTR is escape from Service Menu mode.
9. Turns Power off and return the front loading unit.

## 1 - 2 PG Shifter Adjustment

BOARD	SERVO (F1)
SPEC.	t1, t2 = 126.4 $\mu$ s $\pm$ 2 $\mu$ s
TEST	TP233 , TP20
ADJUST	Cursor button
INPUT	
MODE	PLAY (Test mode)
TAPE	NTSC: VFM3580KM (0min to 14min) PAL: VFM3680KM (0min to 10min)
M.EQ	Oscilloscope

1. Open the SERVICE menu.
2. Set the Marker at SERVO by cursor button (▲, ▼) so that the SET\_SW is on.
3. Select to PG SHIFT by cursor button (▲, ▼).
4. Playback the color bar portion of alignment tape.
5. Press cursor (<,>) button and keep it until the number which is displayed at right of PG SHIFT is renewed.
6. Connect the scope to TP233 and TP320. Trigger the scope by TP233. Then it is displayed as shown in figure.
7. Confirm the t1 and t2 of RP\_HSW and SPA are 126.4  $\mu$ s  $\pm$  2  $\mu$ s .

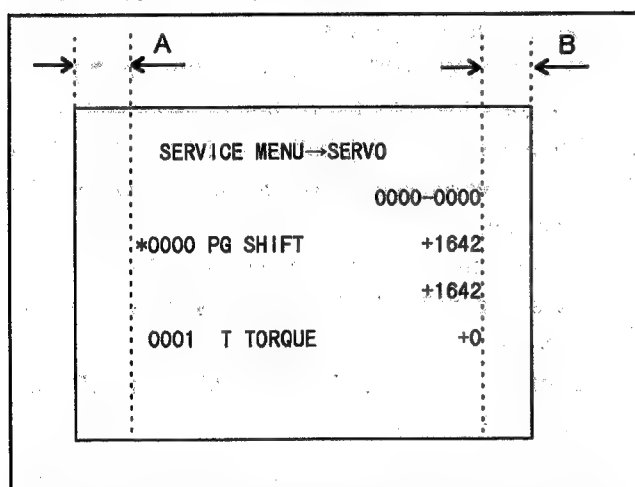


## 2 System Control

### 2 - 1 Super Impose Position Adjustment

BOARD	SYSCON (F2)
SPEC.	
TEST	
ADJUST	VC1
INPUT	
MODE	MODE:EE
TAPE	
M.EQ	Monitor TV

1. Open the SERVICE menu.



2. Adjust VC1 so that the width A and B are equal.
3. Set the front SW as shown below, and reset the MENU.

NOTE: The menu may be different from the above figure.

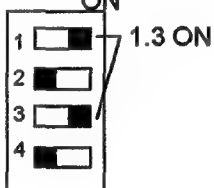
### 3 ADDA CUE P.C.Board

#### 3 - 1 Initial Setting of CUE Adjustment

BOARD	ADDA (F8)
SPEC.	
TEST	
ADJUST	
INPUT	
MODE	
TAPE	
M.EQ	

1. Set the Audio REC Level VR's to center.
2. Set the switches as shown below.

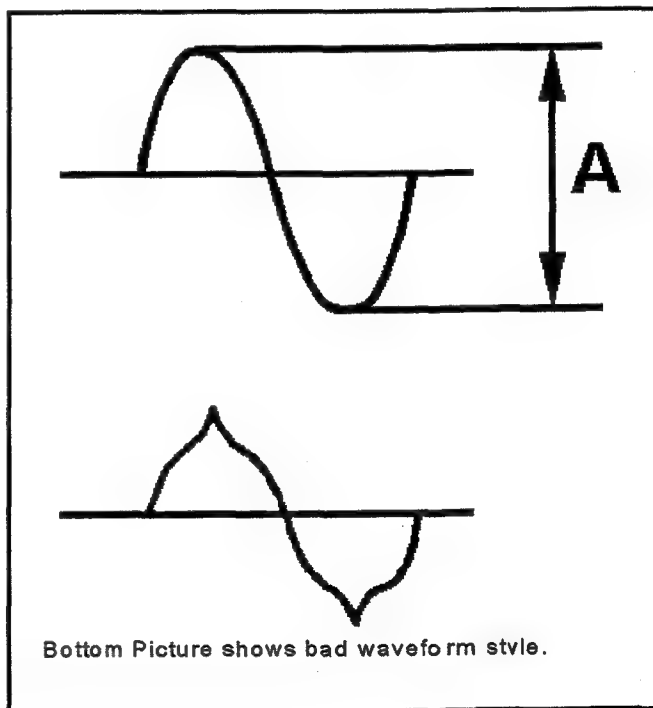
Ref No.	Name	Position
SW4001	CH1 Input Impedance	HIGH
SW4061	CH2 Input Impedance	HIGH
SW4382	NR Select	TEST
SW4381	REC. EQ	ON



#### 3 - 2 CTL Erase/CUE Erase Current Adjustment

BOARD	ADDA (F8)
SPEC.	290mV $\pm$ 50mV
TEST	TP4502 (CTL Erase), TP4501 (CUE Erase)
ADJUST	T4504 (CTL Erase), T4503 (CUE Erase)
INPUT	
MODE	REC PLAY
TAPE	REC/PB Tape
M.EQ	Oscilloscope

1. Adjust T4504 so that the voltage at TP4502 is in the specification.
2. Adjust T4502 so that the voltage at TP4501 is in the specification.



### 3-3 CUE Bias Current Adjustment

<b>BOARD</b>	ADDA (F8)
<b>SPEC.</b>	7mVrms $\pm$ 0.5mV
<b>TEST</b>	TP4382 (GND: TP4383)
<b>ADJUST</b>	T4501, VR4501
<b>INPUT</b>	No signal Input
<b>MODE</b>	REC-PLAY
<b>TAPE</b>	REC/PB Tape
<b>M.EQ</b>	Electric Volt Meter

1. Connect the Electric Volt meter between TP4382 and TP4383 (GND) and confirm the voltage is in the specification.
2. If it is out of specification, adjust T4501 so that the level becomes maximum and adjust VR4501 so that the level is in the specification.

### 3-4 CUE PB Level Adjustment

<b>BOARD</b>	ADDA (F8)
<b>SPEC.</b>	0dBu $\pm$ 0.5dB
<b>TEST</b>	CH1 OUT (XLR Connector)
<b>ADJUST</b>	VR4382
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (0 to 10min) PAL: VFM3680KM (0 to 10min)
<b>M.EQ</b>	Audio Analyzer

1. Open the SERVICE MENU.
2. Set the mark "\*" to AUDIO ADJUST by cursor button, then press the set button.
3. Select the item "E04: LINE OUT CUE" and set to on.
4. Playback CUE Level master part of the alignment tape and adjust VR4382 so that the CUE OUT level is in the specification.

### 3-5 Noise Cancel Adjustment

BOARD	ADDA (F8)
SPEC.	Less than -40dBu
TEST	CH1 OUT (XLR Connector)
ADJUST	VR4383, VR4384
INPUT	
MODE	PLAY
TAPE	No Signal Recorded Tape
M.EQ	Audio Analyzer

1. Connect the Audio Analyzer to CH1 OUT with 1/3 OCT BPF (600Hz) and the noise level is in the specification.
2. If it is not adjust VR4384 and then adjust VR4383 so the noise level is in the specification.
3. If it is not, repeat item 2.

### 3-6 CUE REC/PB Level Coarse Adjustment

BOARD	ADDA (F8)
SPEC.	0dBu $\pm$ 1dB
TEST	CH1 OUT (XLR Connector)
ADJUST	VR4381
INPUT	1KHz, 0dBu
MODE	REC PLAY
TAPE	REC/PB Tape
M.EQ	Audio Analyzer

1. Open the SERVICE menu.
2. Set the mark "\*" to item "E00:AUDIO ADJUST" by cursor button, then press the SET button.
3. Select item "E04:LINE OUT CUE" and set to on.
4. During the recording mode, slightly adjust VR4381.
5. Playback the just recorded portion and confirm that the Audio level is within the specification.
6. If not, repeat steps 4 and 5.

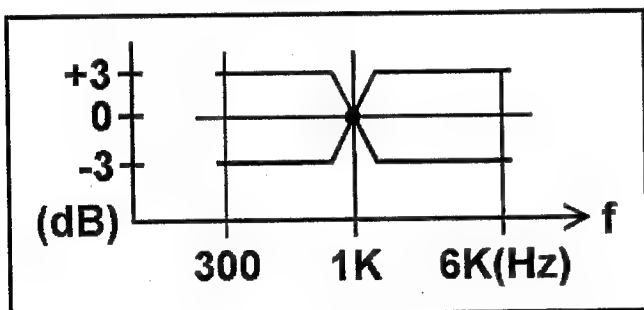
### 3 - 7 CUE REC/PB Frequency Characteristic Adjustment

BOARD	ADDA (F8)
SPEC.	300Hz~6kHz 1KHz $\pm$ 3dB
TEST	CH1 OUT (XLR Connector)
ADJUST	SW4382 SW4381-1,2,3,4
INPUT	300Hz~6kHz, 0dBu
MODE	REC PLAY
TAPE	REC/PB Tape
M.EQ	Audio Analyzer

1. Set SW4382 at normal side.
2. Record a 300Hz through 6kHz, 0dBu sine waveform for a few minutes.
3. Playback the just recorded portion and confirm the 300Hz through 6kHz signal are within  $\pm$  3dB compared with 1kHz level.
4. If it is out of specification adjust frequency characteristic by SW4381-1,2,3,4.

SW4381-3,4  $\rightarrow$  1kHz~6kHz

SW4381-1,2  $\rightarrow$  6kHz



### 3 - 8 CUE REC/PB Level Adjustment

BOARD	ADDA (F8)
SPEC.	0dBu $\pm$ 1dB
TEST	CH1 OUT (XLR Connector)
ADJUST	VR4381
INPUT	1kHz, 0dBu
MODE	REC PLAY
TAPE	REC/PB Tape
M.EQ	Audio Analyzer

1. Open the SERVICE menu.
2. Set the mark "\*" to item "E00:AUDIO ADJUST" by cursor button, then press the SET button.
3. Select item "E04:LINE OUT CUE" and set to on.
4. During the recording mode, slightly adjust VR4381.
5. Playback the just recorded portion and confirm that the Audio level is within the specification.
6. If not, repeat steps 4 and 5.

## 4 RF

### 4 - 1 Pre EQ Adjustment

<b>BOARD</b>	Connect the RF AMP board (H4) with a extension board.
<b>SPEC.</b>	2.5VDC $\pm$ 0.2V(DVCPRO) 2.0 + 0.5V(DV)
<b>TEST</b>	TP20,TP18
<b>ADJUST</b>	EVR (RP MAG L, RP MAG R,PB MAG L, PB MAG R)
<b>MODE</b>	PLAY
<b>TAPE</b>	(NTSC:VFM3010EDS, PAL:VFM3110EDS) (NTSC: VFM3580KM, PAL: VFM3680KM)
<b>M.EQ</b>	Oscilloscope (Greater than 300Mhz) Monitor TV (Connect to VIDEO 3 OUT)

1. Connect the RF AMP board (H4) with extension board.
2. Connect the scope to TP20 and connect the ground to TG9.
3. Connect the scope to TP1 for trigger.
4. Insert a DV MASTER Tape.
5. Open the service menu.
6. Set the mark "\*" item "C00 RF Adjust" by cursor button, then press the set button.
7. Playback a color bar portion of DV Color bar Master Tape.
8. Adjust C09 RP MAG L and C10 RP MAG R so that the DC voltage is  $2.0 \pm 0.5V$ .
9. Eject a DV MASTER Tape then insert a DVCPRO master tape (VFM3580KM).
10. Playback the color bar portion of VFM3580KM.
11. Adjust C09 RP MAG L and C10 RP MAG R so that the DC voltage is  $2.5 \pm 0.2V$ .
12. Connect the scope TP18 and connect the ground to TG7.
13. Connect the scope TP2 for trigger.
14. Adjust C13 PB MAG L and C14 PB MAG R so that the DC voltage is  $2.5 \pm 0.2V$ .

### 4 - 2 RF AMP PB Phase Adjustment

<b>BOARD</b>	Connect the RF AMP board (H4) with a extension board.
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	EVR (RP PHASE L, RP PHASE R, PB PHASE L, PB PHASE R)
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(NTSC:VFM3010EDS, PAL:VFM3110EDS) (NTSC: VFM3580KM, PAL: VFM3680KM)
<b>M.EQ</b>	

1. Open the Service Menu.
2. Insert a DV alignment Tape.
3. Set the items as shown below.
 

C17	CONCEAL MODE	ON
C18	VITERBI MODE	OFF
C19	PB MODE	RP H
C20	ERROR MODE	FAST
4. Playback a color bar portion.
5. Set the Audio CHANNEL indicator to "CH2" by pressing [DIAG] button (Video error is appeared on the Audio meter).
6. Adjust RP PHASE L and RP PHASER so that the error rate is minimum.
7. Insert a VFM3580KM.
8. Set the items as shown below.
 

C17	CONCEAL MODE	ON
C18	VITERBI MODE	ON
C19	PB MODE	PR H
C20	ERROR MODE	FAST
9. Playback a color bar portion of VFM3580KM.
10. Adjust RP PHASE L and RP PHASE R so that the error rate is minimum.
11. Change item C19:PB MODE to PB H from RP H.
12. Adjust PB PHASE L and PB PHASE R so that the error rate is minimum.

## **5 EQ**

### **5 - 1 Preparation of EQ Adjustment**

*How to open the EQ MENU.*

1. Open the service menu.
  - ① Press the menu button.
  - ② While pressing the eject key and the stop key, press the menu key.
2. Set the mark "\*" to item "B00 EQ Adjust" by cursor button, then press set button.



## 5 - 2 PLL Lock Adjustment (PB)

BOARD	EQ (H3)
SPEC.	
TEST	TP403, Monitor
ADJUST	VR410, PB PLL PHASE, PB PLL SLICE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	TV Monitor

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	PB H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback a color bar tape and confirm the picture is appeared on the monitor.
6. If picture is not appeared, adjust following items.
  - (1) Connect the scope to TP403 and adjust the level is 2.1 V DC.
  - (2) B01 Adjust PB PLL PHASE.  
B02 Adjust PB PLL SLICE.
7. Repeat STOP to PLAY mode, and confirm the picture is surely appeared every time. If the picture is not appeared, repeat item 3.

## 5 - 3 PLL Latch Phase Coarse Adjustment (PB)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	PB PLL PHASE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	PB H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust B01 PB PLL PHASE so that the video error rate becomes minimum.

#### 5 - 4 PLL Slice Level Coarse Adjustment (PB)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB PLL SLICE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	PB H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback a color bar portion of the alignment tape.
6. Adjust B02 PB PLL SLICE so that the video error rate becomes minimum.

#### 5 - 5 EQ Adjustment (1)(PB)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB MAIN DL
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	PB H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback a color bar portion of the alignment tape.
6. Adjust B19 PB MAIN DL so that the video error rate is minimum.

## 5-6 EQ Adjustment (2)(PB)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB AEQ, PB GAIN L, PB PHASE L, PB GAIN R, PB PHASE R
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE           AL OFF  
 B25 CONCEAL MODE    OFF  
 B26 VITERBI MODE     OFF  
 B27 PB MODE           PB H  
 B28 ERROR MODE       FAST  
 B29 EQ AUTO ADJ      STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust each adjustment item so that the each portion's error rate becomes minimum as shown in the table.

Procedures	Adjust VR	Error Rate Portion
1	PB AEQ	VIDEO R & L CH
2	PB GAIN L	VIDEO L CH
3	PB PHASE L	VIDEO L CH
4	PB GAIN R	VIDEO R CH
5	PB PHASE R	VIDEO R CH

## 5-7 PLL Latch Phase Fine Adjustment (PB)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB PLL PHASE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE           AL OFF  
 B25 CONCEAL MODE    OFF  
 B26 VITERBI MODE     OFF  
 B27 PB MODE           PB H  
 B28 ERROR MODE       FAST  
 B29 EQ AUTO ADJ      STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust PB PLL PHASE so that the video error rate becomes minimum.

## 5 - 8 PLL Slice Level Fine Adjustment (PB)

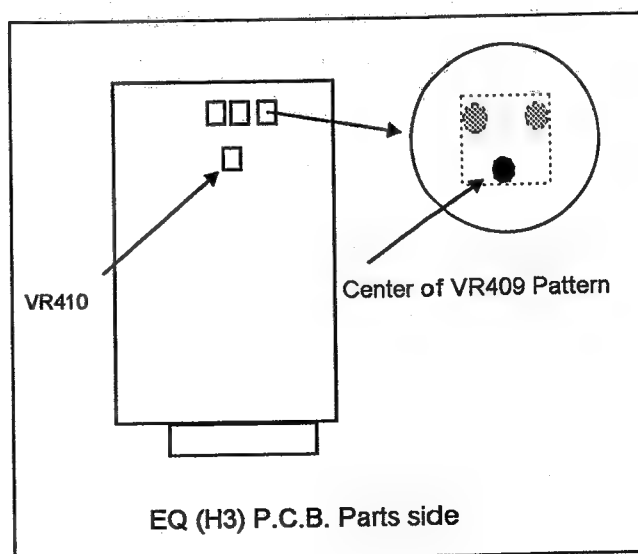
BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	PB PLL SLICE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE                      AL OFF  
 B25 CONCEAL MODE              OFF  
 B26 VITERBI MODE               OFF  
 B27 PB MODE                      PB H  
 B28 ERROR MODE                FAST  
 B29 EQ AUTO ADJ                STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust PB PLL SLICE so that the video error rate becomes minimum.

## 5 - 9 Viterbi A/D Input Level Adjustment

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display, Center of VR409 Pattern
ADJUST	VTB GAIN, VR801
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	Electric Volt Meter

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE                      AL OFF  
 B25 CONCEAL MODE              OFF  
 B26 VITERBI MODE               ON  
 B27 PB MODE                      PB H  
 B28 ERROR MODE                FAST  
 B29 EQ AUTO ADJ                STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust VTB GAIN so that the video error rate is minimum.
7. Connect the Electric Volt Meter to "Center of VR409 Pattern" and confirm the DC voltage is 2.1 V DC to 2.4 V DC. If it is not, adjust VR801.
8. Turns VITERBI MODE off after adjustment.



## 5 - 1 0 PLL Lock Adjustment (R/P Head)

BOARD	EQ (H3)
SPEC.	
TEST	TP203 , Monitor
ADJUST	VR210, RP PLL PHASE, RP PLL SLICE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	TV Monitor

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape and confirm the picture appears on the monitor.
6. If the picture is not appeared adjust following items.
  - (1) Connect the Electric Volt Meter to TP203 and adjust VR210 so that the DC voltage is 2.1 V DC.
  - (2) Adjust RP PLL PHASE  
Adjust RP PLL SLICE
4. Repeat STOP to PLAY and confirm the picture is surely appeared. If it is not, repeat item 3.

## 5 - 1 1 PLL Latch Phase Adjustment (R/P)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	RP PLL PHASE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Adjust RP PLL PHASE so that the video error rate is minimum.

## 5-1 2 PLL Slice Level Adjustment (R/P)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	RP PLL SLICE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Adjustment RP PLL SLICE so that the video error rate is minimum.

## 5-1 3 EQ Adjustment (1) (R/P)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	RP MAIN DL
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Adjust RP MAIN DL so that the video error rate is minimum.

#### 5 - 1 4 EQ Adjustment (2)(R/P)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	RP AEQ, RP GAIN, RP PHASE L RP GAIN R, RP PHASE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE           AL OFF  
 B25 CONCEAL MODE    OFF  
 B26 VITERBI MODE     OFF  
 B27 PB MODE           RP H  
 B28 ERROR MODE       FAST  
 B29 EQ AUTO ADJ      STOP
5. Adjust the each Adjustment item so that the error rate is minimum.

Procedures	Adjust VR	Error Rate Portion
1	RP AEQ	VIDEO R & L CH
2	RP GAIN L	VIDEO L CH
3	RP PHASE L	VIDEO L CH
4	RP GAIN R	VIDEO R CH
5	RP PHASE R	VIDEO R CH

#### 5 - 1 5 PLL Latch Phase Fine Adjustment (R/P)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	RP PLL PHASE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.  
 B24 ECC MODE           AL OFF  
 B25 CONCEAL MODE    OFF  
 B26 VITERBI MODE     OFF  
 B27 PB MODE           RP H  
 B28 ERROR MODE       FAST  
 B29 EQ AUTO ADJ      STOP
5. Playback a color bar portion of the alignment tape.
6. Adjust RP PLL PHASE so that the VIDEO error rate is minimum.

### 5 - 1 6 PLL Slice Level Fine Adjustment (R/P)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	RP PLL SLICE
INPUT	
MODE	PLAY
TAPE	NTSC: VFM3580KM (Color Bar portion) PAL: VFM3680KM (Color Bar portion)
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback a color bar portion of the alignment tape.
6. Adjust RP PLL SLICE so that the video error rate is minimum.

### 5 - 1 7 PLL LOCK Confirmation (Consumer DV)

BOARD	EQ (H3)
SPEC.	
TEST	Monitor
ADJUST	PB PLL SLICE
INPUT	
MODE	PLAY
TAPE	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape and confirm the picture appears on the monitor.  
If the picture is not appeared adjust PB PLL SLICE.
6. Repeat STOP to PLAY and confirm the picture is surely appeared. If it is not, repeat item 3.



### 5 - 1 8 PLL Slice Level Coarse Adjustment (Consumer DV)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB PLL SLICE
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape
6. Adjust PB PLL SLICE, so that the video error rate is minimum

### 5 - 1 9 EQ Adjustment (1) (Consumer DV)

<b>BOARD</b>	EQ (H3)
<b>SPEC.</b>	Error Rate Minimum
<b>TEST</b>	Front display
<b>ADJUST</b>	PB MAIN DL
<b>INPUT</b>	
<b>MODE</b>	PLAY
<b>TAPE</b>	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
<b>M.EQ</b>	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust PB MAIN DL so that the error rate is minimum.

## 5 - 2 0 EQ Adjustment (2) (Consumer DV)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	PB AEQ, PB GAIN L, PB PHASE L, PB GAIN R, PB PHASE R
INPUT	
MODE	PLAY
TAPE	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust each adjustment item so that the error rate is minimum.

Procedures	Adjust VR	Error Rate Portion
1	PB AEQ	VIDEO R & L CH
2	PB GAIN L	VIDEO L CH
3	PB PHASE L	VIDEO L CH
4	PB GAIN R	VIDEO R CH
5	PB PHASE R	VIDEO R CH

## 5 - 2 1 PLL Slice Level Fine Adjustment (Consumer DV)

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	PB PLL PHASE
INPUT	
MODE	PLAY
TAPE	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	OFF
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Adjust PB PLL SLICE so that the video error rate becomes minimum.

## 5-2 2 Consumer DV Viterbi Confirmation

BOARD	EQ (H3)
SPEC.	Error Rate Minimum
TEST	Front display
ADJUST	VTB GAIN, PB PLL PHASE
INPUT	
MODE	PLAY
TAPE	(Consumer DV Alignment Tape) NTSC:VFM3010EDS, PAL:VFM3110EDS
M.EQ	

1. Insert a alignment tape.
2. Open the service menu.
3. Select the item B00 EQ Adjust.
4. Set the items as shown below.
 

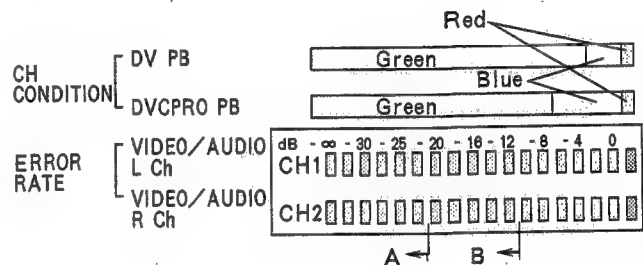
B24 ECC MODE	AL OFF
B25 CONCEAL MODE	OFF
B26 VITERBI MODE	ON
B27 PB MODE	RP H
B28 ERROR MODE	FAST
B29 EQ AUTO ADJ	STOP
5. Playback the color bar portion of the alignment tape.
6. Confirm the error rate is improved by Viterbi on. The improvement can be confirmed by the error rate meter decrease 5 scale on the front audio meter.
7. If the error rate is not improved so much, adjust following items.
  - (1) Adjust VTB GAIN.
  - (2) Adjust PB PLL PHASE

### How to confirm the Error Rate

1. Playback a DVCPRO/DV Alignment tape.
2. Set the items as shown below.

EQ MENU	DVCPRO PB	DV PB
B24 ECC MODE	AL OFF	AL OFF
B25 CONCEAL MODE	OFF	OFF
B26 VITERBI MODE	AUTO	AUTO
B27 PB MODE	PB H	RP H
B28 ERROR MODE	SLOW	SLOW
B29 EQ AUTO ADJ	STOP	STOP

3. Set the Audio Channel indicator to "CH2" by pressing [DIAG] button (Video error is appeared on the Audio meter).



※ Please refer to condition of the error rate follow the tape format and VTR mode. Indicated as below.

DVCPRO : less than "A" position at level meter.

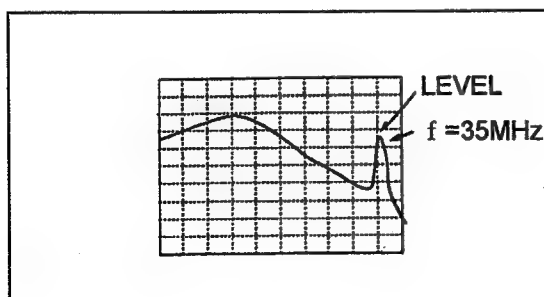
DV : less than "B" position at level meter.

## 6 RF AMP P.C.Board

### 6 - 1 REC Current, Frequency Characteristic Adjustment

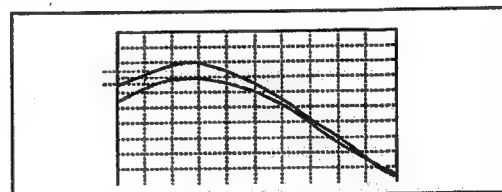
BOARD	RF AMP (H4)
SPEC.	
TEST	TP17, TG7 (GND), TP2 (TRIG)
ADJUST	EVR (REC CUR L, REC CUR R, REC FREQ L, REC FREQ R) VC600, VC601
INPUT	100% Color Bar
MODE	PLAY, REC / PLAY
TAPE	Color Bar NTSC: VFM3580KM, PAL: VFM3680KM REC / PB Tape
M.EQ	Spectrum Analyzer / Monitor TV (Connect to VIDEO 3 OUT)

1. Connect a extension board with RF AMP board (H4).
2. Insert a Alignment tape.
3. Set the items as shown below.  
C17 CONCEAL MODE      ON  
C18 VITERBI MODE      ON  
C20 ERROR MODE      FAST
4. Playback a color bar portion of the alignment tape and write down the error rate (Error rate-A).
5. Connect the trigger of spectrum Analyzer at TP2 .
6. Connect the spectrum Analyzer In at TP17 with a 50ohm coaxial cable (Use GND at TG7).
7. Store the signal on the Spectrum Analyzer in TRACE-A.
8. Eject the color bar tape and insert a R/P tape and record a color bar 100% signal.
9. Adjust VC600 and VC601 so that the peak level of TRACE-B at 35MHz is minimum.



10. Adjust "REC CUR L" and "REC CUR R" so that the level of TRACE-B at 5 MHz is -4 dB  $\pm$  0.5 dB of TRACE-A.
11. Adjust "REC FREQ L" and "REC FREQ R" so that the level at 20 MHz at TRACE-B is maximum.  
**POINT:** Set the confidence playback level is lower less than level of TRACE-A and increase the gain gradually by JOG Dial so that the level is maximum.  
Please set the adjustment value in the first place the level is became maximum.
12. Adjust REC CUR L and REC CUR R so that the level at 5 MHz of TRACE-B is same as TRACE-A.  
**POINT:** Set the confidence playback level is lower less than level of TRACE-A and increase the gain gradually by JOG Dial so that the level is same as TRACE-A.
13. If the level of TRACE B is not same as TRACE A, Confirm that the level of TRACE B is within 0 to -2dB against TRACE A (spec: 0 to -2dB).
14. Record for one minute keeping the above condition. Then playback the just recorded portion and confirm the error rate is same or better than Error Rate A.
15. Return the RF AMP board into the unit.

#### ■ ITEM PARAMETER



REF. LEVEL      -25dB  
 ATT              10dB  
 DIV              5dB/DIV  
 START FREQUENCY 0KHz  
 STOP FREQUENCY 40MHz  
 RES VW          1MHz  
 VBW              3KHz  
 SWEEP           300msec  
 TRIGGER          EXT (HEAD SW)

## 6 - 2 Rotary Erase Current Adjustment

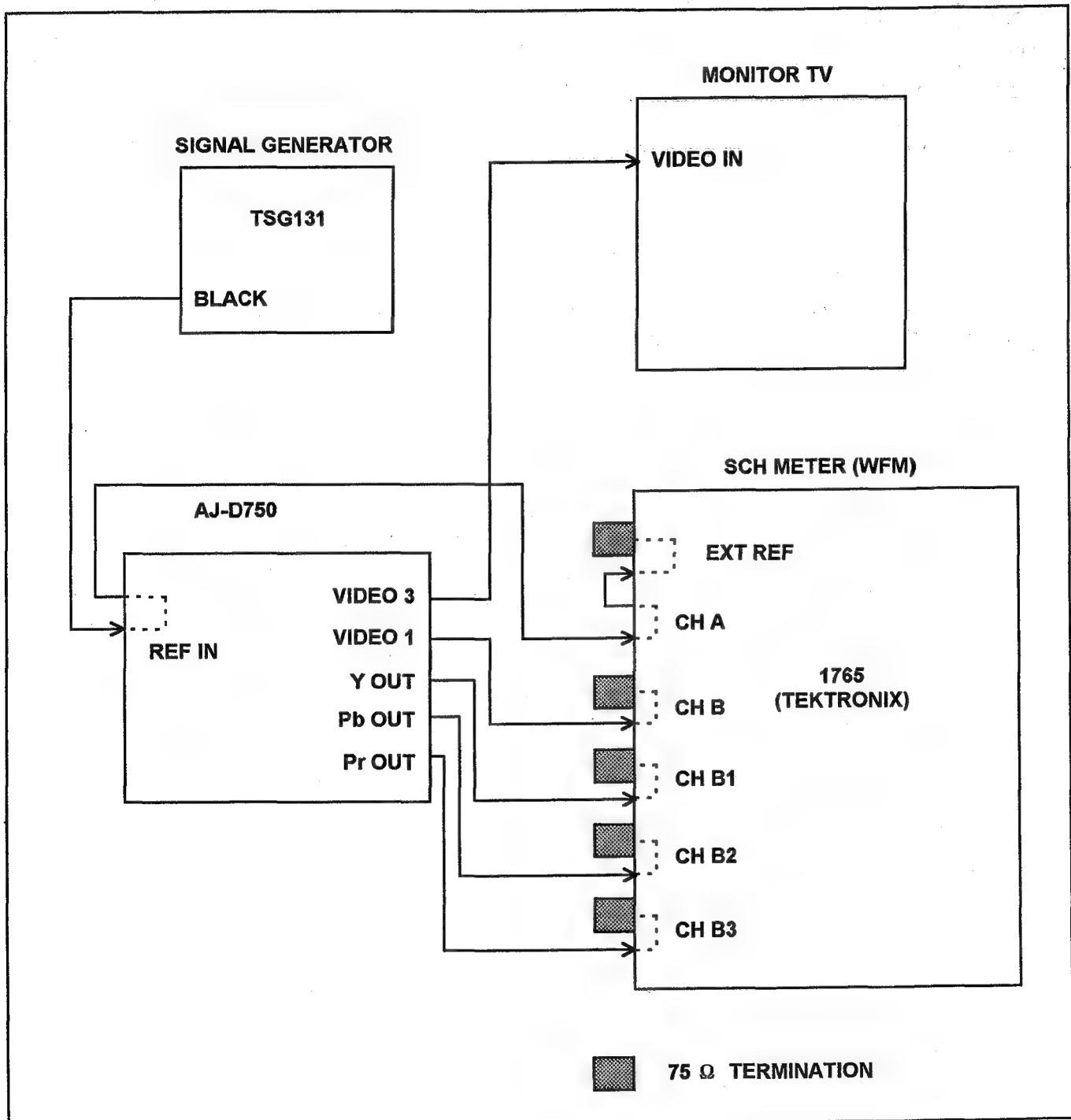
BOARD	RF AMP (H4)
SPEC.	1.0 $\pm$ 0.12V
TEST	TP11, TP12
ADJUST	VR13, VR14
INPUT	100% Color Bar
MODE	REC / PLAY
TAPE	REC / PLAY Tape
M.EQ	Oscilloscope

1. Insert a REC/PLAY tape auto record a 100% color bar.
2. Connect a scope to TP11 with 10:1 probe and adjust VR13 (RE A) so that the DC level is in the specification (1.0  $\pm$  0.2V).
3. Then connect the scope to TP12 and adjust VR14 (RE B) so that the DC level is in the specification (1.0  $\pm$  0.2V).

## 7 Video Out P.C.Board

### Preparation for Video Out Adjustment

1. Connect the equipment as shown in Figure.



## 7-1. DA Reference Voltage Adjustment

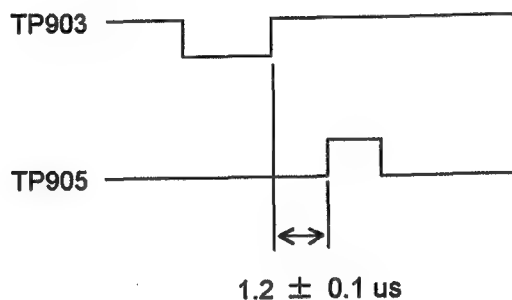
BOARD	V OUT (F4)
SPEC.	$3.9 \pm 0.05\text{VDC}$
TEST	TP300
ADJUST	VR300 (F-1)
INPUT	-----
MODE	Play
TAPE	Alignment Tape
M.EQ	Oscilloscope

1. Adjust VR300 so that the DC Voltage is  $3.9 \pm 0.05\text{V}$ .

## 7-2. Sampling Position Adjustment

BOARD	V OUT (F4)
SPEC.	$1.2 \pm 0.1\mu\text{s}$
TEST	TP903, TP905
ADJUST	VR900 (C-1)
INPUT	-----
MODE	Play
TAPE	Alignment Tape
M.EQ	Oscilloscope

Adjust VR900 so that the phase difference is  $1.2 \pm 0.1\mu\text{s}$  between the rising edge at TP903 and the rising edge at TP905 as shown in figure.



### 7-3. PLL center Frequency Adjustment

BOARD	V OUT (F4)
SPEC.	$0 \pm 0.1V$
TEST	TP1001
ADJUST	VC1000 (C-1)
INPUT	-----
MODE	Play
TAPE	Alignment Tape
M.EQ	Oscilloscope

Adjust VC1000 so that the Voltage is  $0 \pm 0.1V$ .

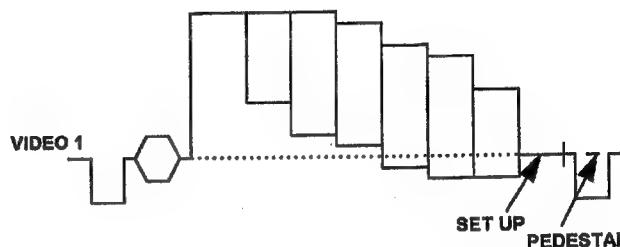
TP1001



### 7-4. Composite Setup Adjustment

BOARD	V OUT (F4)
SPEC.	Setup level = pedestal level
TEST	Video out1
ADJUST	VR802 (I-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	WFM

1. Adjust VR802 so that the level difference between the setup level and the pedestal level is  $0 \pm 1$  IRE.

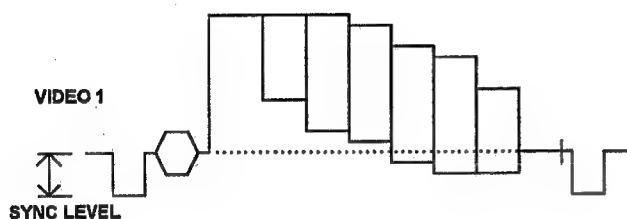




## 7-5. Sync Level Adjustment

BOARD	V OUT (F4)
SPEC.	40 IRE $\pm$ 1%
TEST	Video out1
ADJUST	VR400 (F-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	WFM

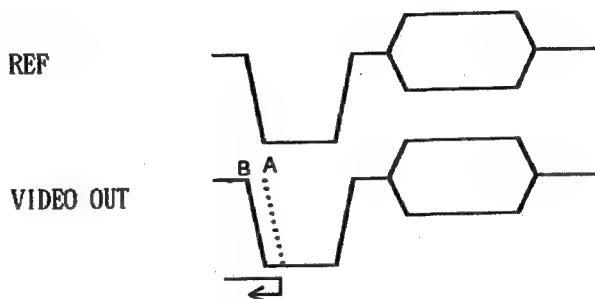
1. Adjustment VR400 so that the sync level is 40 IRE  $\pm$  1%.



## 7-6. H PHASE Adjustment

BOARD	V OUT (F4)
SPEC.	-----
TEST	Video out1
ADJUST	VR1100 (C-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	WFM

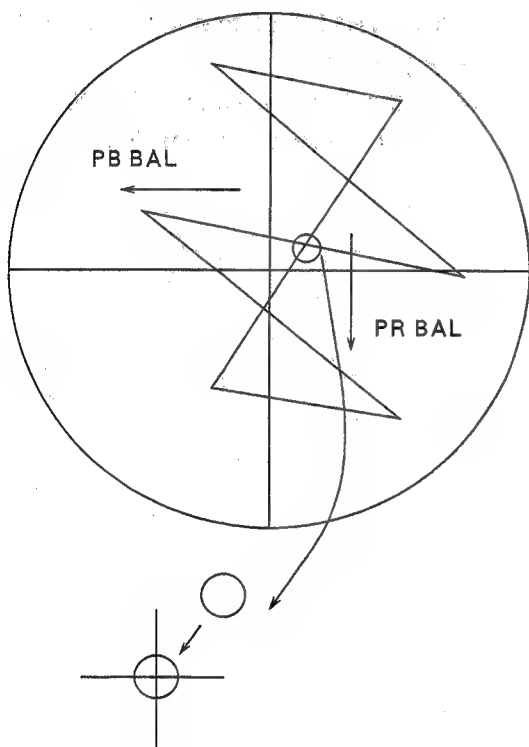
1. Set WFM in the EXT-REF MODE
2. Adjust VR1100 so that the relation between the REF H PHASE and V out H PHASE is as follows by selecting the WFM input REF and V out.
  - (1) Adjust VR1100 so that the V out H Phase is at A position.
  - (2) After the item (1), Adjust VR1100 so that the V out H Phase is at B position.



## 7-7. Carrier Balance Adjustment

BOARD	V OUT (F4)
SPEC.	-----
TEST	Video out1
ADJUST	VR505 (H-1), VR506 (H-2)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	VECTOR SCOPE

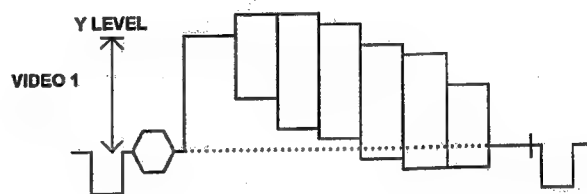
1. Set Vector Scope in the MAX GAIN MODE.
2. Adjust VR505 and VR506 so that the center cross point of the Vector is positioned at the center of vector scope.



## 7-8. Composite Y Level Adjustment

BOARD	V OUT (F4)
SPEC.	100 IRE $\pm$ 1%
TEST	Video out1
ADJUST	VR800 (I-2)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	WFM

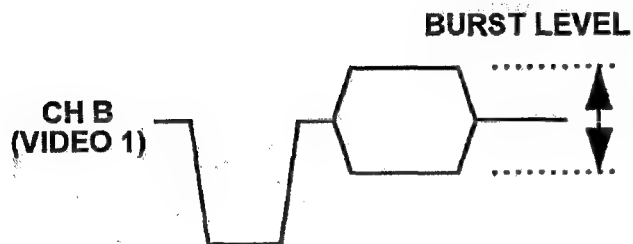
1. Adjust VR800 so that the Y level is 100 IRE  $\pm$  1%.



### 7-9. Burst Level Adjustment

BOARD	V OUT
SPEC.	40 IRE $\pm$ 1%
TEST	Video out1
ADJUST	VR503 (H-2)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	WFM

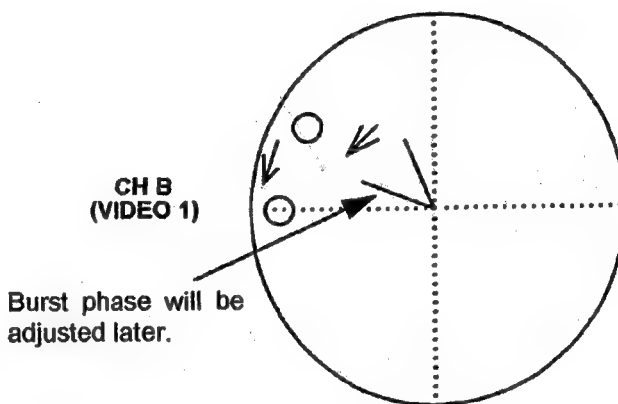
Adjust VR503 so that the Burst level is 40 IRE  $\pm$  1%.



### 7-10. Sub-Carrier Phase Adjustment

BOARD	V OUT (F4)
SPEC.	0 $\pm$ 1°
TEST	Video out1
ADJUST	VR1000
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	METER

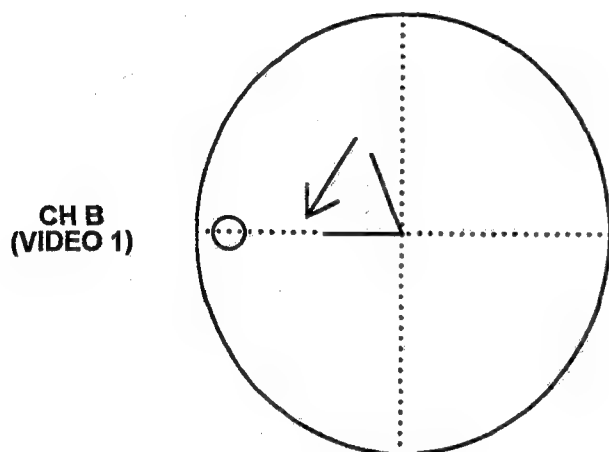
1. Adjust VR1000 so that the SCH of Video out is same as REF IN.



### 7-11. Burst Phase Adjustment 1

BOARD	V OUT (F4)
SPEC.	$0 \pm 1^\circ$
TEST	Video out1
ADJUST	VR902 (B-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	VECTOR SCOPE

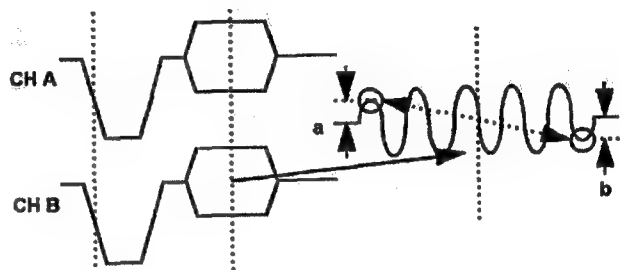
Adjust VR902 so that the phase difference of burst between video out and Ref is within specification.



### 7-12. Burst Phase Adjustment 2

BOARD	V OUT (F4)
SPEC.	----
TEST	Video out
ADJUST	VR1102 (B-2)
INPUT	----
MODE	Play
TAPE	VFM3580KM
M.EQ	WFM

1. Set the WFM so that the center position of the burst from the sync of REF IN and Video out are match the position.
2. Adjust VR1102 so that the difference level between A and B is less than 10mV.

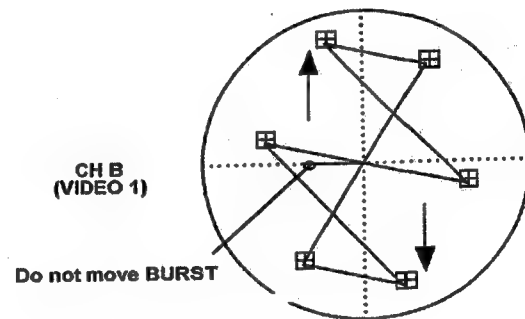
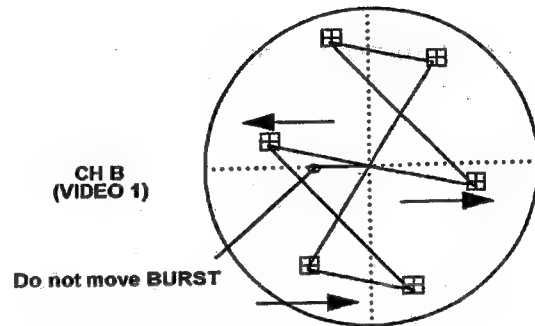
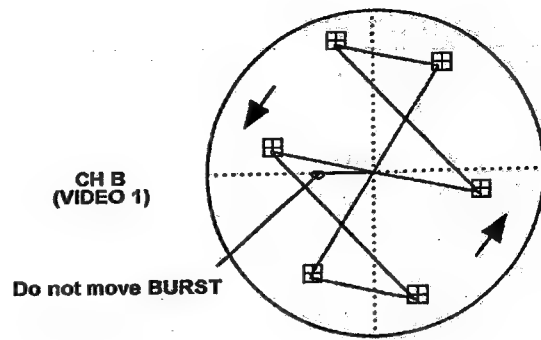
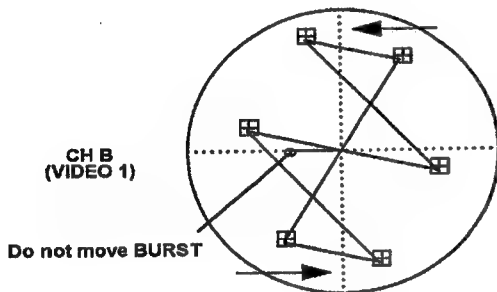


## 7-13. Vector Adjustment

BOARD	V OUT (F4)
SPEC.	-----
TEST	Video out1
ADJUST	VR507(I-1), VR502(I-2), VR501(H-1), VR500(H-2)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	VECTOR SCOPE

1. Set the Burst on the Vector scope at correct position.
2. Adjust VR507, VR502, VR501 and VR500 so that the each vector points are in the marker on the vector scope.

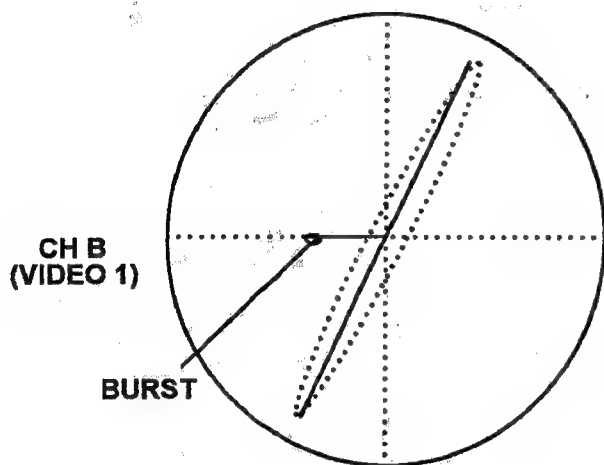
VR507 (QUAD) : Diagonal direction  
 VR502 (HUE) : Rotary direction  
 VR501 (ENC PB LEV) : Horizontal direction  
 VR500 (ENC PR LEV) : Vertical direction



## 7-14. Composite PB-PR Timing Adjustment

BOARD	V OUT (F4)
SPEC.	$0 \pm 10\mu s$
TEST	Video out1
ADJUST	VR307 (G-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 18min to 22min
M.EQ	VECTOR SCOPE

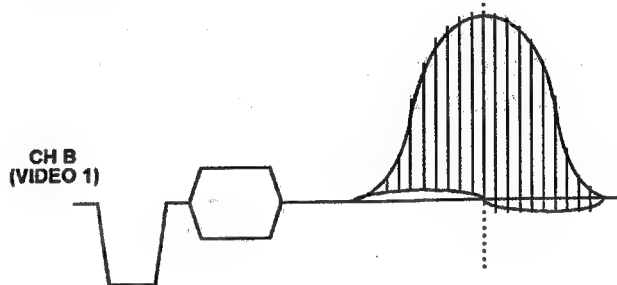
Adjust VR307 so that the signal becomes straight line (not circle).



## 7-15. Composite YC Timing Adjustment

BOARD	V OUT (F4)
SPEC.	$0 \pm 10\mu s$
TEST	Video out1
ADJUST	VR803 (J-2)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 22min to 26min
M.EQ	WFM

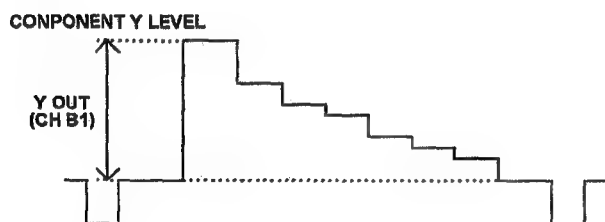
1. Adjust VR803 so that the right part and left part of 12.5T waveform is symmetric as shown in figure.
2. After this adjustment, readjust the Burst phase adjustment.



## 7-16. Component Y Level Adjustment

BOARD	V OUT (F4)
SPEC.	700mV $\pm$ 1%
TEST	Y OUT
ADJUST	VR301 (G-1)
INPUT	----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	WFM

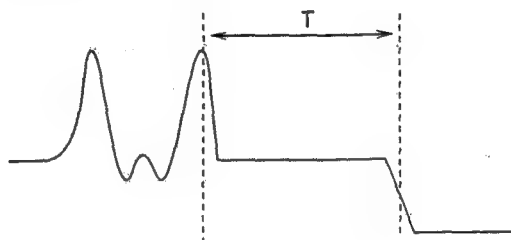
1. Confirm that the SW400 on the F4 board is set to "MII" position.
2. Adjust VR301 so that the Y level is 700 mV  $\pm$  1%.



## 7-17. Video Phase Adjustment

BOARD	V OUT (F4)
SPEC.	1.26 $\pm$ 0.2us
TEST	Y out
ADJUST	VR1050 (A-1)
INPUT	----
MODE	Play
TAPE	VFM3580KM 26min to 30min
M.EQ	WFM

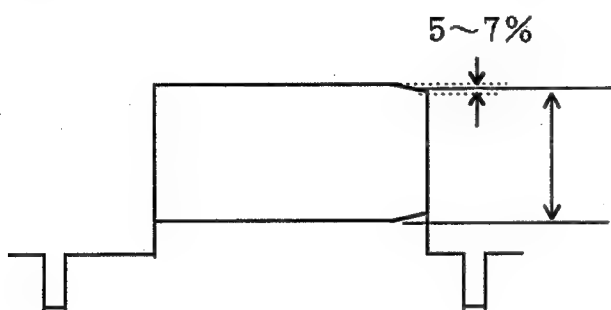
1. Playback the active area marker portion of the alignment tape.
2. Adjust VR1050 so that the timing T is within specification as shown in figure.



## 7-18. Component Y Frequency Adjustment

BOARD	V OUT (F4)
SPEC.	5.75 MHz -5% to -7%
TEST	Y out
ADJUST	VR304 (G-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 14min to 18min
M.EQ	WFM

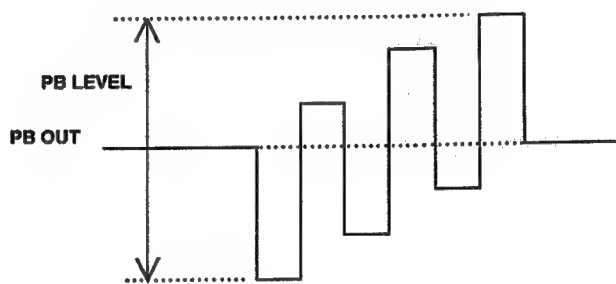
Adjust VR304 so that the frequency characteristic is flat.



## 7-19. Component PB Level Adjustment

BOARD	V OUT (F4)
SPEC.	525mV $\pm$ 1%
TEST	PB OUT
ADJUST	VR306 (F-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	WFM

1. Confirm that the SW400 on the F4 board is set to "MII" position.
2. Adjust VR306 so that the PB level is 525mV  $\pm$  1%.

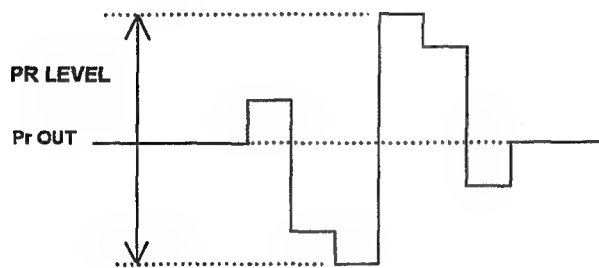




## 7-20. Component PR Level Adjustment

BOARD	V OUT (F4)
SPEC.	525mV $\pm$ 1%
TEST	PR out
ADJUST	VR305 (G-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 7min to 14min
M.EQ	WFM

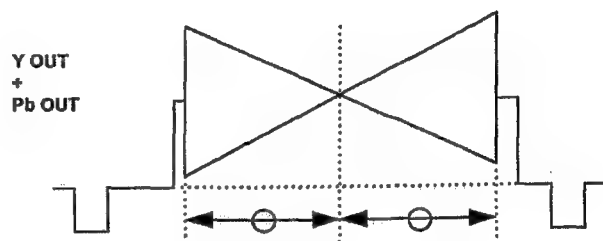
1. Confirm that the SW400 on the F4 board is set to "MII" position.
2. Adjust VR305 so that the PR level is 525mV  $\pm$  1%.



## 7-21. Component Y-PB Timing Adjustment

BOARD	V OUT (F4)
SPEC.	0 $\pm$ 10us
TEST	Y out, PB out
ADJUST	VR303 (F-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 18min to 22min
M.EQ	WFM

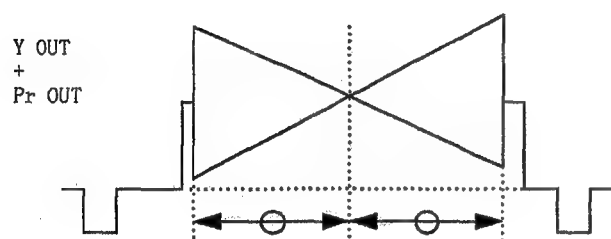
1. Set the WFM in the YC timing measurement mode.
2. Adjust VR303 so that the cross point of envelope is at center.



## 7-22. Component Y-PR Timing Adjustment

BOARD	V OUT (F4)
SPEC.	$0 \pm 10\mu s$
TEST	Y out, PR out
ADJUST	VR302 (G-1)
INPUT	-----
MODE	Play
TAPE	VFM3580KM 18min to 22min
M.EQ	WFM

1. Set the WFM in the YC timing measurement mode.
2. Adjust VR302 so that the cross point of envelope is at center.

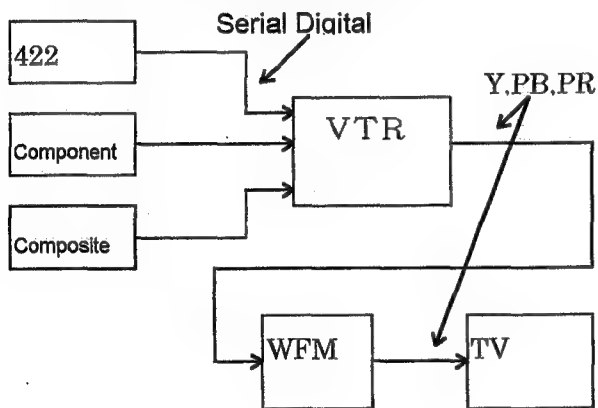


## 8. V IN P.C.Board

### 8-1. Preparation for Video In Adjustment

BOARD	V IN (F6)
SPEC.	
TEST	
ADJUST	
INPUT	
MODE	
TAPE	
M.EQ	

1. Connect the equipment as shown in figure.
2. V IN P.C.Board adjustment should be performed after V out P.C.Board adjustment.



### 8-2. 13.5MHz VCO Adjustment

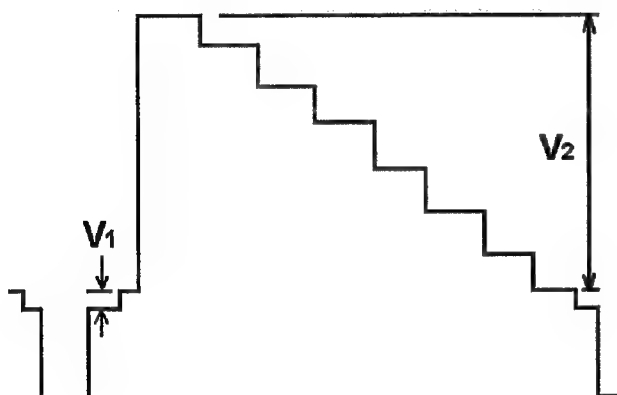
BOARD	V IN (F6)
SPEC.	$0 \pm 0.1V$
TEST	TP553
ADJUST	VL551 (F-3), VR552 (F-2)
INPUT	ANALOG Y PB PR
MODE	EE
TAPE	----
M.EQ	Oscilloscope

1. Set VR552 to the center.
2. Adjust VL552 so that the DC Voltage is  $0 \pm 0.1V$ .  
\* First, turn VL551 CCW.

### 8-3. Component Y Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1=0 \pm 7\text{mV}$ $V2=700 \pm 7\text{mV}$
TEST	Y out
ADJUST	VR652 (C-2), VR651 (C-2)
INPUT	ANALOG Y PB PR 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

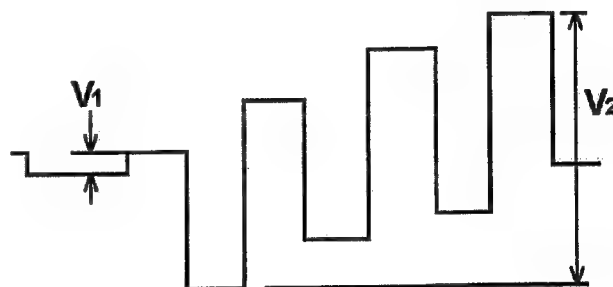
1. Adjust VR652 so that the  $V1$  is  $0\text{V} \pm 7\text{mV}$ .
2. Adjust VR651 so that the  $V2$  is  $700\text{mV} \pm 7\text{mV}$ .



### 8-4. Component PB Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1=0 \pm 7\text{mV}$ $V2=700 \pm 7\text{mV}$
TEST	PB out
ADJUST	VR703 (A-1), VR702 (B-2)
INPUT	ANALOG Y PB PR 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

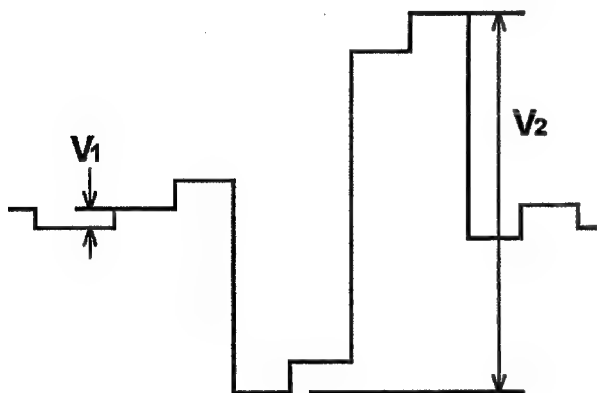
1. Adjust VR703 so that the  $V1$  is  $0 \pm 7\text{mV}$ .
2. Adjust VR702 so that the  $V2$  is  $700 \pm 7\text{mV}$ .



### 8-5. Component PR Level Adjustment

BOARD	V IN (F6)
SPEC.	$V1=0 \pm 7\text{mV}$ $V2=700 \pm 7\text{mV}$
TEST	PR out
ADJUST	VR753 (A-1), VR752 (B-1)
INPUT	ANALOG Y PB PR 100% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

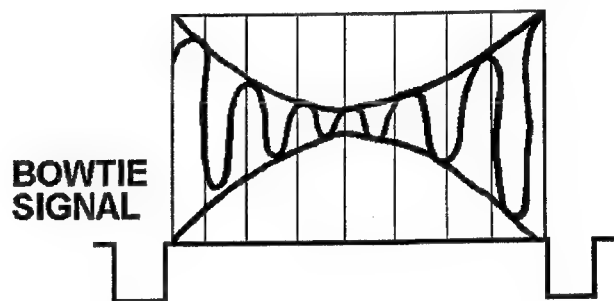
1. Adjust VR753 so that the  $V1$  is  $0 \pm 7\text{mV}$ .
2. Adjust VR752 so that the  $V2$  is  $700 \pm 7\text{mV}$ .



### 8-6. Component YC Timing Adjustment

BOARD	V IN (F6)
SPEC.	$0 \pm 10\mu\text{s}$
TEST	Y,PB,PR out
ADJUST	PB TIM VR701 (B-2), PR-TIM VR751 (B-1)
INPUT	ANALOG Y PB PR BOWTIE
MODE	EE
TAPE	-----
M.EQ	WFM

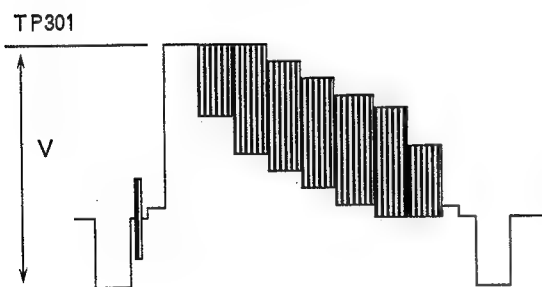
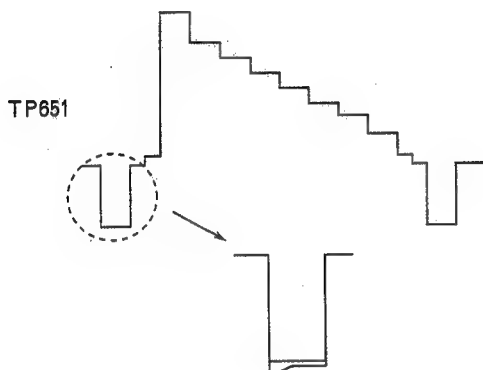
1. Adjust VR701 so that the Y/PB timing is correct.
2. Adjust VR751 so that the Y/PR timing is correct.



## 8-7. Composite Input Level Adjustment

BOARD	V IN (F6)
SPEC.	$V=1.6 \pm 0.02V$
TEST	TP651, TP301
ADJUST	VR301 (I-2), VR251 (I-3)
INPUT	COMPOSITE 75% color bar
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

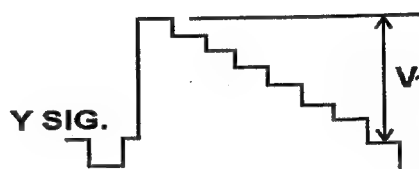
1. Observe TP651 and adjust VR301 at the point where the sync tip just begin to saturate.
2. Adjust VR251 so that the voltage at TP301 is  $1.6 \pm 0.02V$ .



## 8-8. Composite Y Level Adjustment

BOARD	V IN (F6)
SPEC.	$V_1=700 \pm 7mV$
TEST	Y out
ADJUST	VR352 (I-1)
INPUT	COMPOSITE 75% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

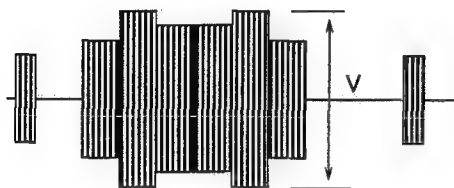
Adjust VR352 so that the  $V_1$  is  $700 \pm 7mV$ .



## 8-9. Composite Color Level Adjustment

BOARD	V IN (F6)
SPEC.	$360 \pm 20\text{mVp-p}$
TEST	TP451
ADJUST	VR351 (I-1)
INPUT	COMPOSITE 75% color bar
MODE	EE
TAPE	----
M.EQ	Oscilloscope

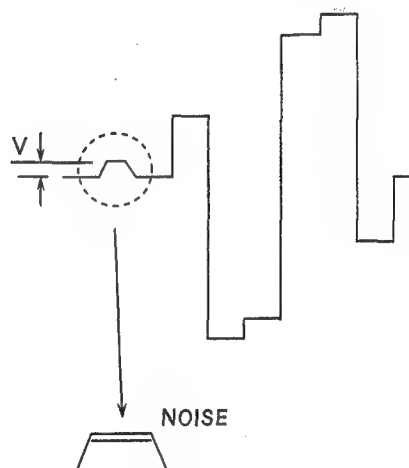
1. Adjust VR360 so that the V is  $360 \pm 20\text{mVp-p}$ .



## 8-10. Composite Color Demodulation Adjustment

BOARD	V IN (F6)
SPEC.	
TEST	TP401
ADJUST	VR408(H-2), VR409(G-2)
INPUT	COMPOSITE 75% color bar
MODE	EE
TAPE	----
M.EQ	Oscilloscope

1. Fully turn the VR409 CCW.
2. Adjust VR408 so that the noise portion is positioned on the top of A portion as shown in figure.
3. Adjust VR409 so that the V is 0V.



### 8-11. Composite PB Level Adjustment

BOARD	V IN (F6)
SPEC.	V2=486 $\pm$ 7mV
TEST	PB out
ADJUST	VR460 (F-1)
INPUT	COMPOSITE 75% color bar
MODE	EE
TAPE	----
M.EQ	WFM

1. Adjust VR460 so that the V2 is 486mV  $\pm$  7mV.



### 8-12. Composite PR Level Adjustment

BOARD	V IN (F6)
SPEC.	V3=486 $\pm$ 7mV
TEST	PR out
ADJUST	VR464 (F-1)
INPUT	COMPOSITE 75% color bar
MODE	EE
TAPE	----
M.EQ	WFM

1. Adjust VR464 so that the V3 is 486mV  $\pm$  7mV.

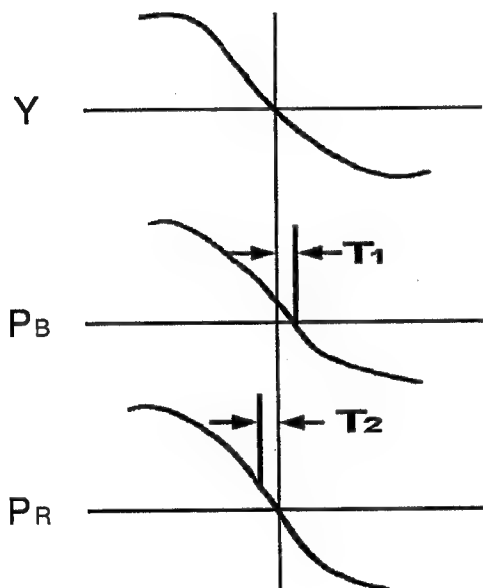




### 8-13. Composite YC Timing Adjustment

BOARD	V IN (F6)
SPEC.	$T1=0 \pm 10\text{nsec}$ $T2=0 \pm 10\text{nsec}$
TEST	Y PB PR out
ADJUST	PB TIM:VR459(G-2), PR TIM VR463(F-1)
INPUT	PULSE & BAR
MODE	EE
TAPE	----
M.EQ	WFM

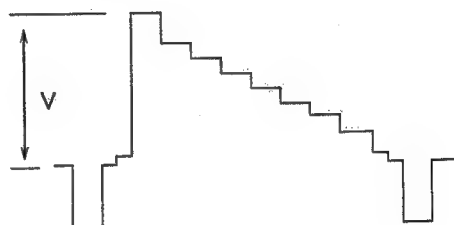
1. Set the WFM in the DIFF MODE.
2. Observe the MOD 12.5T portion.
3. Adjust VR459 so that the  $T1$  is  $0 \pm 10\text{us}$ .
4. Adjust VR463 so that the  $T2$  is  $0 \pm 10\text{us}$ .



### 8-14. Y Level (Y/C) Adjustment

BOARD	V IN (F6)
SPEC.	$V=700 \pm 7\text{mV}$
TEST	Y out
ADJUST	VR354
INPUT	S-VIDEO
MODE	EE
TAPE	----
M.EQ	WFM

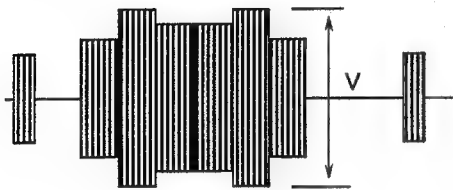
1. Adjust VR354 so that the  $V$  is  $700 \pm 7\text{mV}$ .



### 8-15. Color Level Adjustment

BOARD	V IN (F6)
SPEC.	$V=360 \pm 20\text{mVp-p}$
TEST	TP451
ADJUST	VR353 (H-2)
INPUT	S-VIDEO 75 % color bar
MODE	EE
TAPE	-----
M.EQ	Oscilloscope

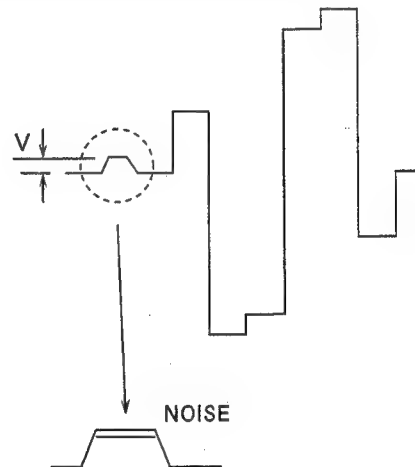
1. Adjust VR353 so that the V is  $360 \pm 20\text{mV}$ .



### 8-16. YC Color Demodulation Adjustment

BOARD	V IN (F6)
SPEC.	
TEST	TP401
ADJUST	VR410 (G-2), VR409 (G-2)
INPUT	S-VIDEO 75% color bar
MODE	EE
TAPE	-----
M.EQ	WFM

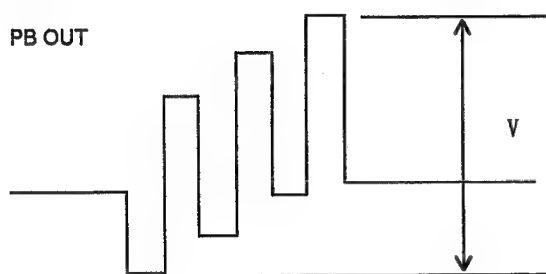
1. Fully turn the VR409 CCW.
2. Adjust VR410 so that the noise portion is positioned on the top of A portion as shown in figure.
3. Adjust VR409 so that the V is 0V.



### 8-17. PB Level Adjustment

BOARD	V IN (F6)
SPEC.	$V=486 \pm 7\text{mV}$
TEST	PB out
ADJUST	VR462 (F-1)
INPUT	S-VIDEO 75% color bar
MODE	EE
TAPE	----
M.EQ	WFM

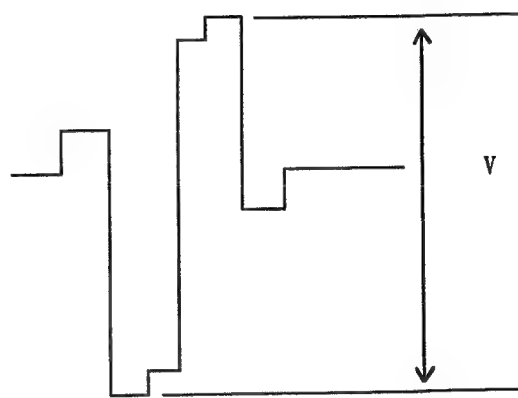
1. Adjust VR462 so that the V is  $486 \pm 7\text{mV}$ .



### 8-18. PR Level Adjustment

BOARD	V IN (F6)
SPEC.	$V=486 \pm 7\text{mV}$
TEST	PR out
ADJUST	VR466
INPUT	S-VIDEO 75% color bar
MODE	EE
TAPE	----
M.EQ	WFM

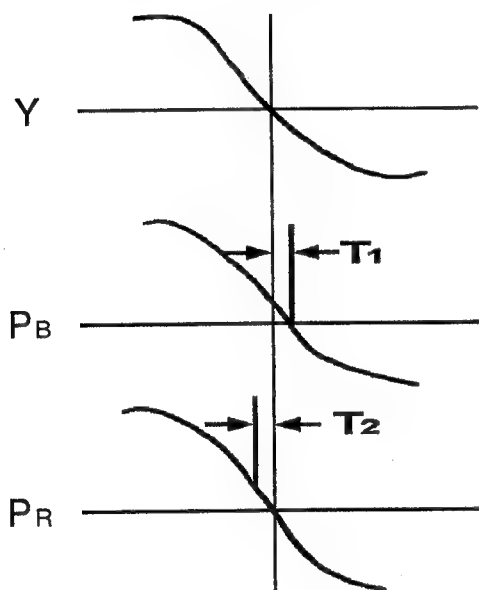
1. Adjust VR466 so that the V is  $486 \pm 7\text{mV}$ .



### 8-19. YC Timing (Y/C) Adjustment

BOARD	V IN (F6)
SPEC.	$T_1=0 \pm 10\mu s$ $T_2=0 \pm 10\mu s$
TEST	Y PB PR out
ADJUST	PB TIM=VR461, PR TIM VR465
INPUT	S-VIDEO 75 % PULSE & BAR
MODE	EE
TAPE	-----
M.EQ	WFM

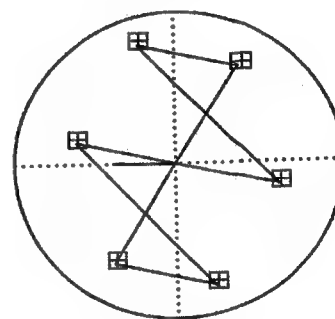
1. Set the WFM in the DIFF MODE.
2. Observe the MOD 12.5T portion.
3. Adjust VR461 so that the  $T_1$  is  $0 \pm 10\mu s$ .
4. Adjust VR465 so that the  $T_2$  is  $0 \pm 10\mu s$ .



### 8-20. Vector (Composite) Adjustment

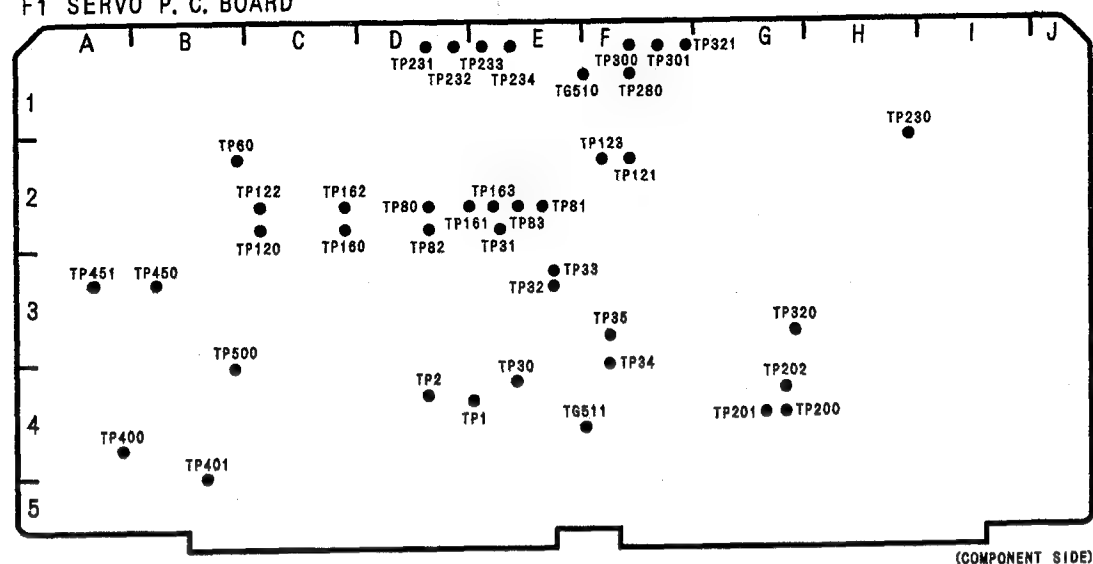
BOARD	V IN (F6)
SPEC.	
TEST	COMPOSITE out
ADJUST	VR409 (G-2)
INPUT	COMPOSITE 75% color bar
MODE	EE
TAPE	-----
M.EQ	VECTOR SCOPE

1. Adjust VR409 so that the each dot is in  $\boxplus$  mark.

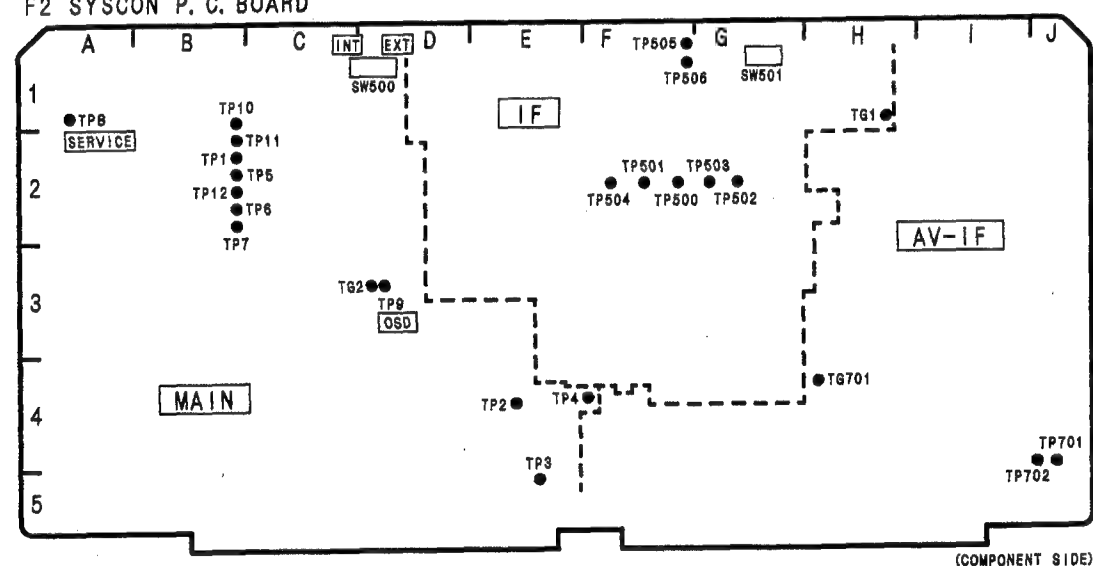


## LOCATION OF TEST POINTS & CONTROLS

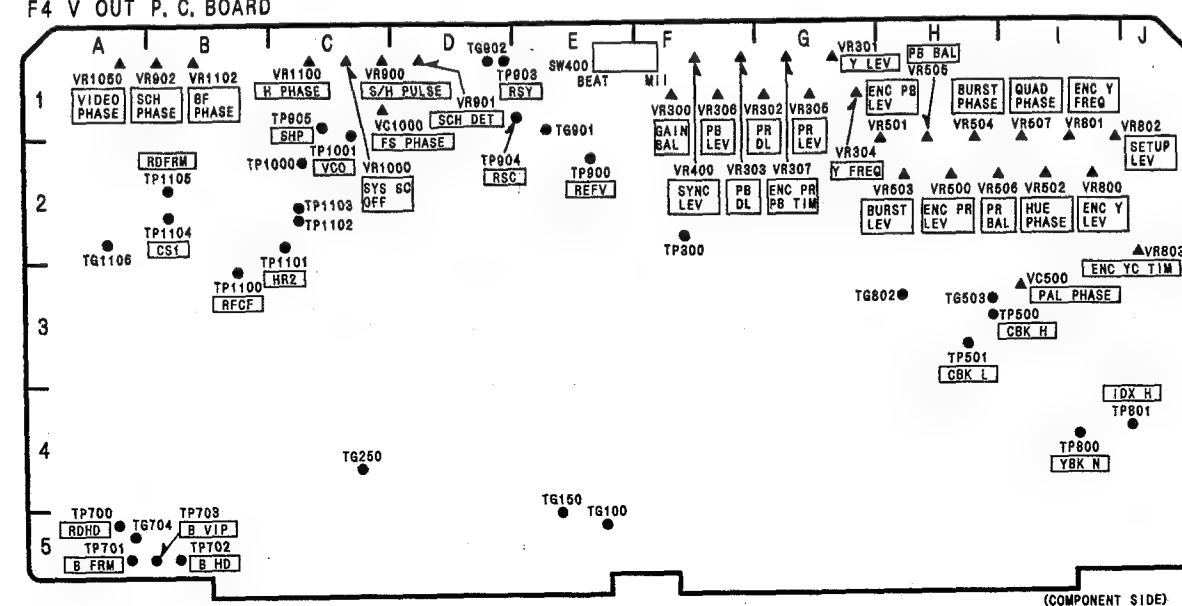
F1 SERVO P. C. BOARD



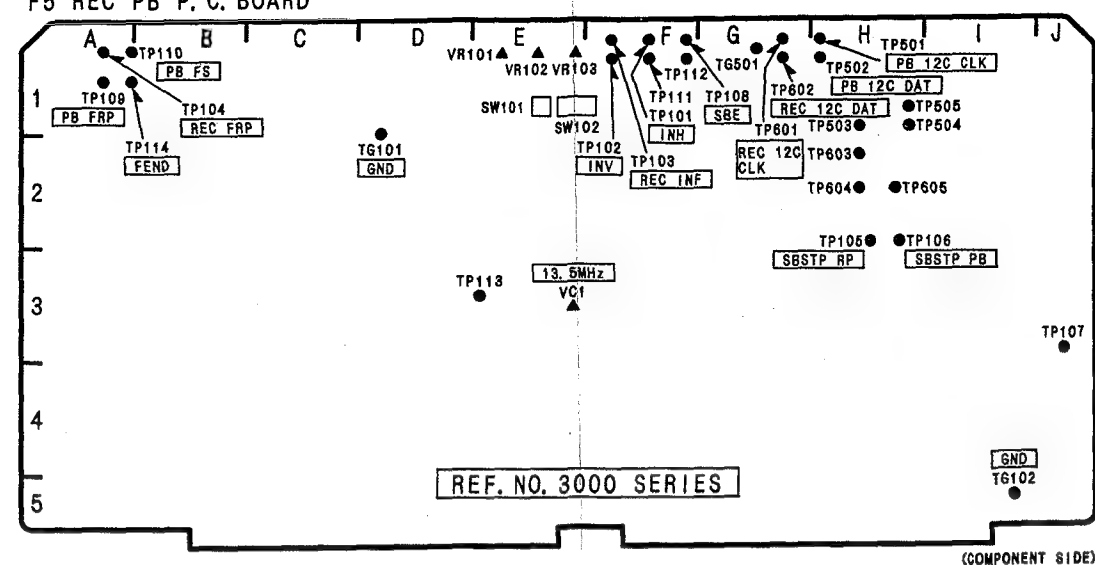
F2 SYSCON P. C. BOARD



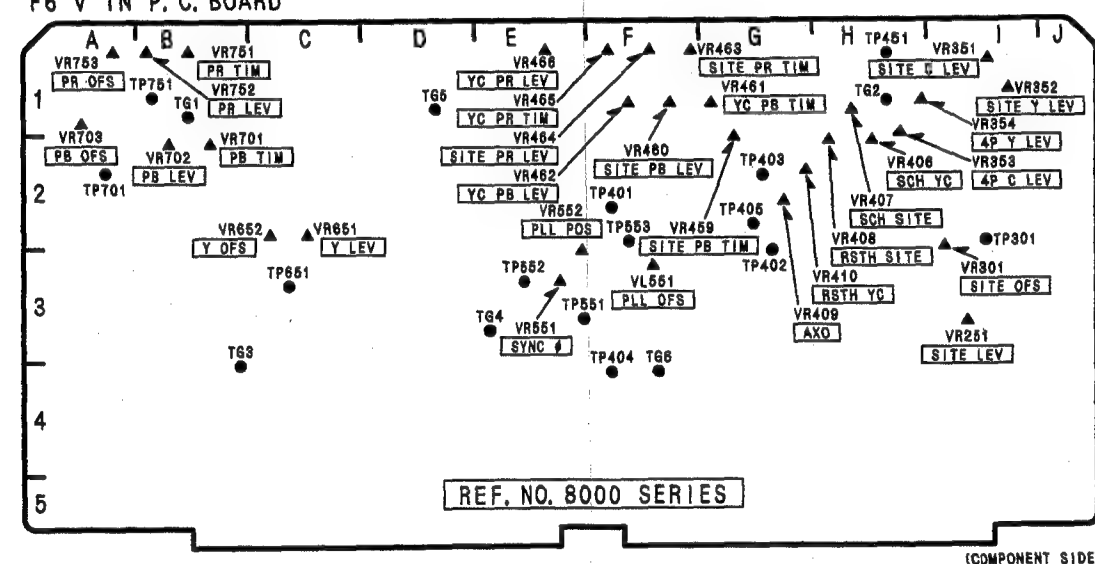
F4 V OUT P. C. BOARD



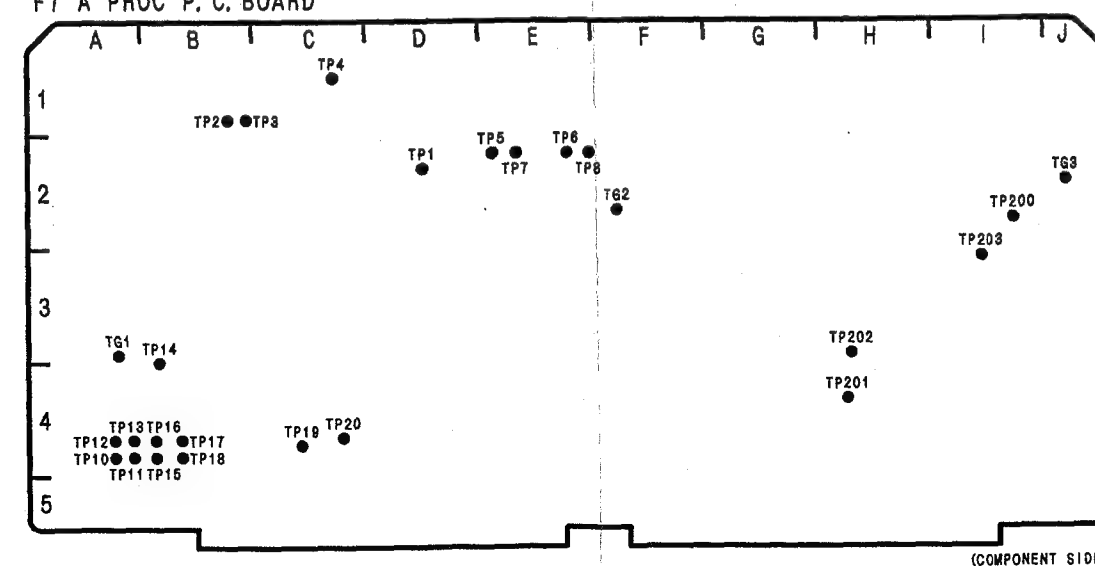
F5 REC PB P. C. BOARD



F6 V IN P. C. BOARD



F7 A PROC P. C. BOARD





# SECTION 5

## EXPLODED VIEWS & REPLACEMENT PARTS LIST

**Note:**

1. \*Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS ( $\mu$ F), P= $\mu$ F.
3. The P.C. Board units marked with "■" shown below the main assembled parts.
4. The parts marked with © on the exploded view show the electric parts.
5. **IMPORTANT SAFETY NOTICE**  
Components identified with the mark <I> have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.  
After the discontinuation of this assembly in production, it will no longer be available.

<<Abbreviations for part>>

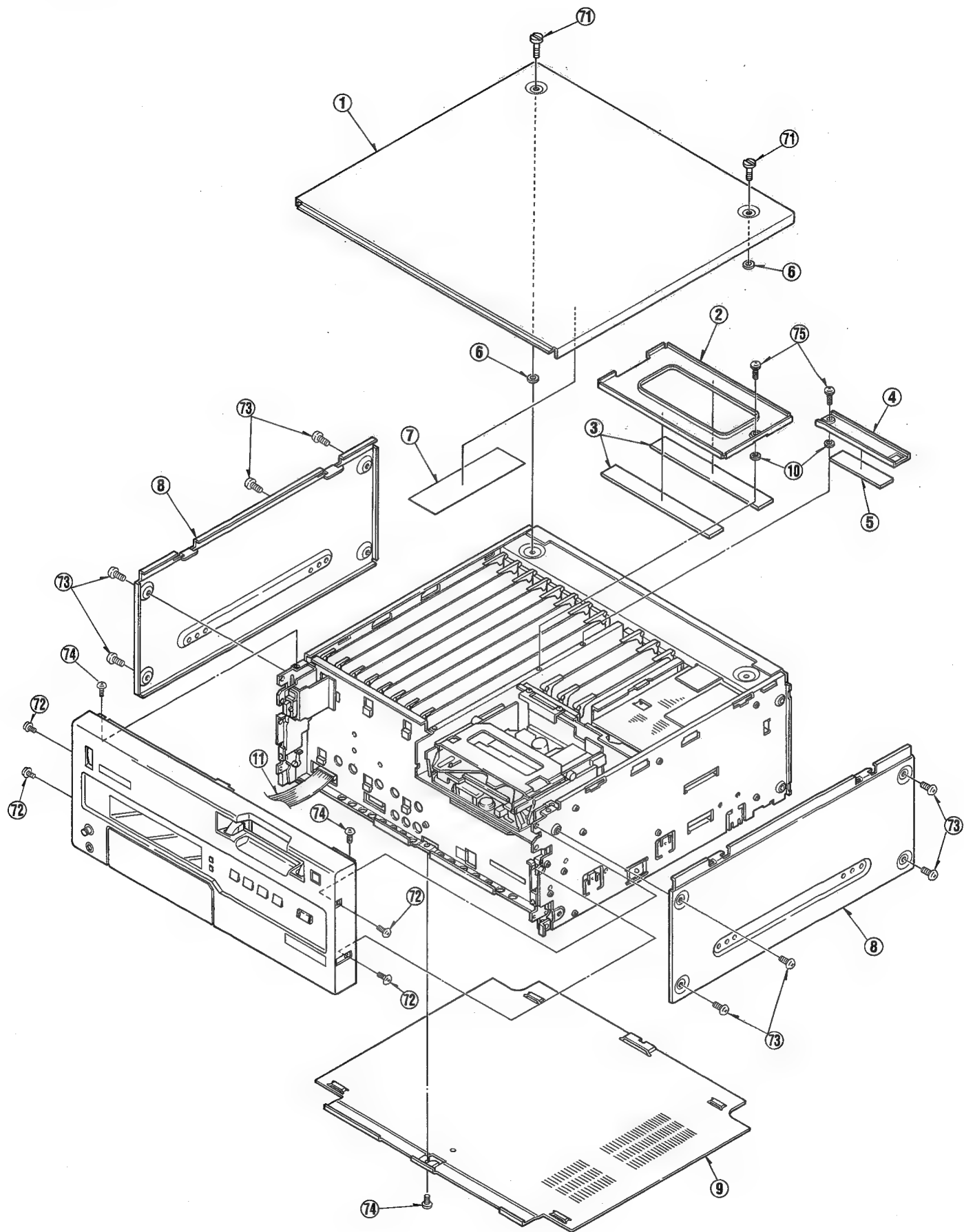
<NAME>		<DESCRIPTIONS>
C. CAPACITOR	:	CERAMIC CAPACITOR
C. CAPACITOR	CH :	CERAMIC CHIP CAPACITOR
E. CAPACITOR	:	ELECTROLYTIC CAPACITOR
G. CAPACITOR	:	GLASS CAPACITOR
M. CAPACITOR	:	MICA CAPACITOR
P. CAPACITOR	:	PLASTIC FILM CAPACITOR
S. CAPACITOR	:	SEMI-CONDUCTOR CAPACITOR
T. CAPACITOR	:	TANTALUM CAPACITOR
TRIMMER	:	TRIMMER
C. RESISTOR	:	CARBON RESISTOR
F. RESISTOR	:	FUSE RESISTOR
M. RESISTOR	:	METAL OXIDE RESISTOR
M. RESISTOR	CH :	METAL OXIDE CHIP RESISTOR
S. RESISTOR	:	SOLID RESISTOR
V. RESISTOR	:	VARIABLE RESISTOR
W. RESISTOR	:	WIRE WOUND RESISTOR
COMBI. TR-R	:	TRANSISTOR-RESISTOR COMBINATION PARTS
COMBI. R-R	:	RESISTOR-RESISTOR COMBINATION PARTS
COMBI. C-R	:	CAPACITOR-RESISTOR COMBINATION PARTS
COMBI. C-R-R	:	CAPACITOR-RESISTOR-COIL COMBINATION PARTS
P.C. BOARD	:	PRINTED CIRCUIT BOARD
W/COMPONENT	:	WITH COMPONENT

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# CASING PARTS ASSEMBLY

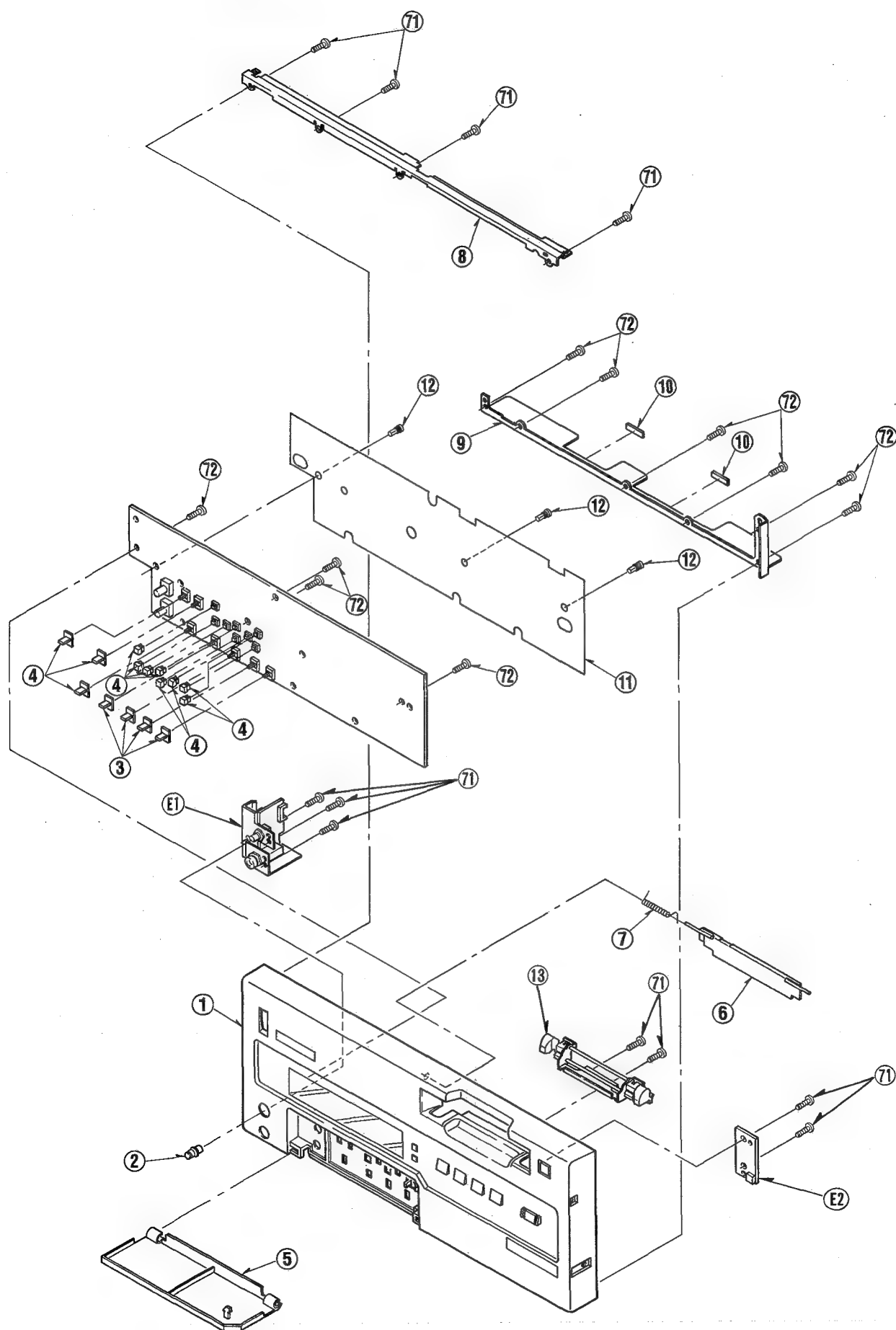


## MECHANICAL REPLACEMENT PARTS LIST

### CASING PARTS ASSEMBLY

[illegible]

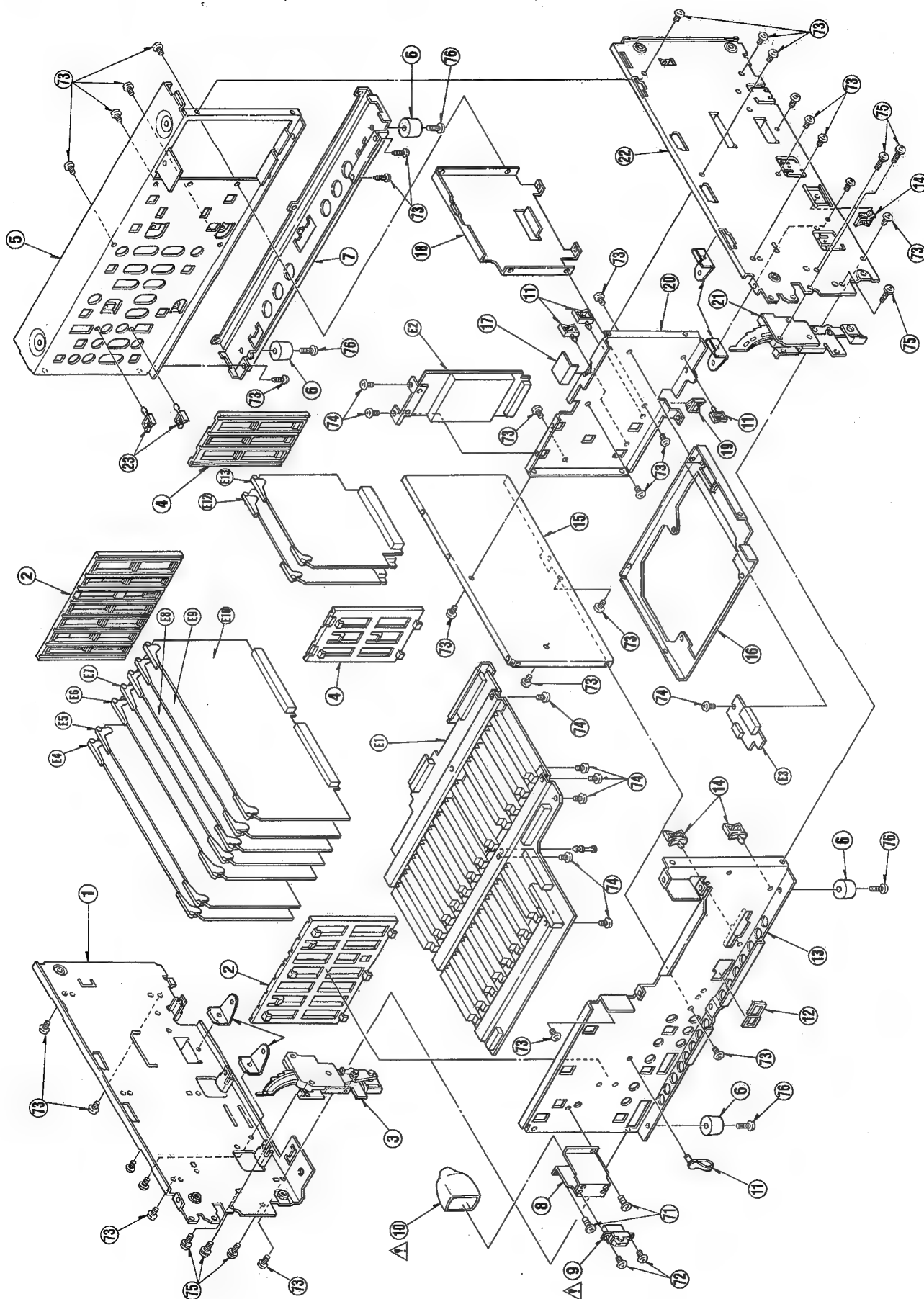
# FRONT PANEL ASSEMBLY



[illegible]

5-5

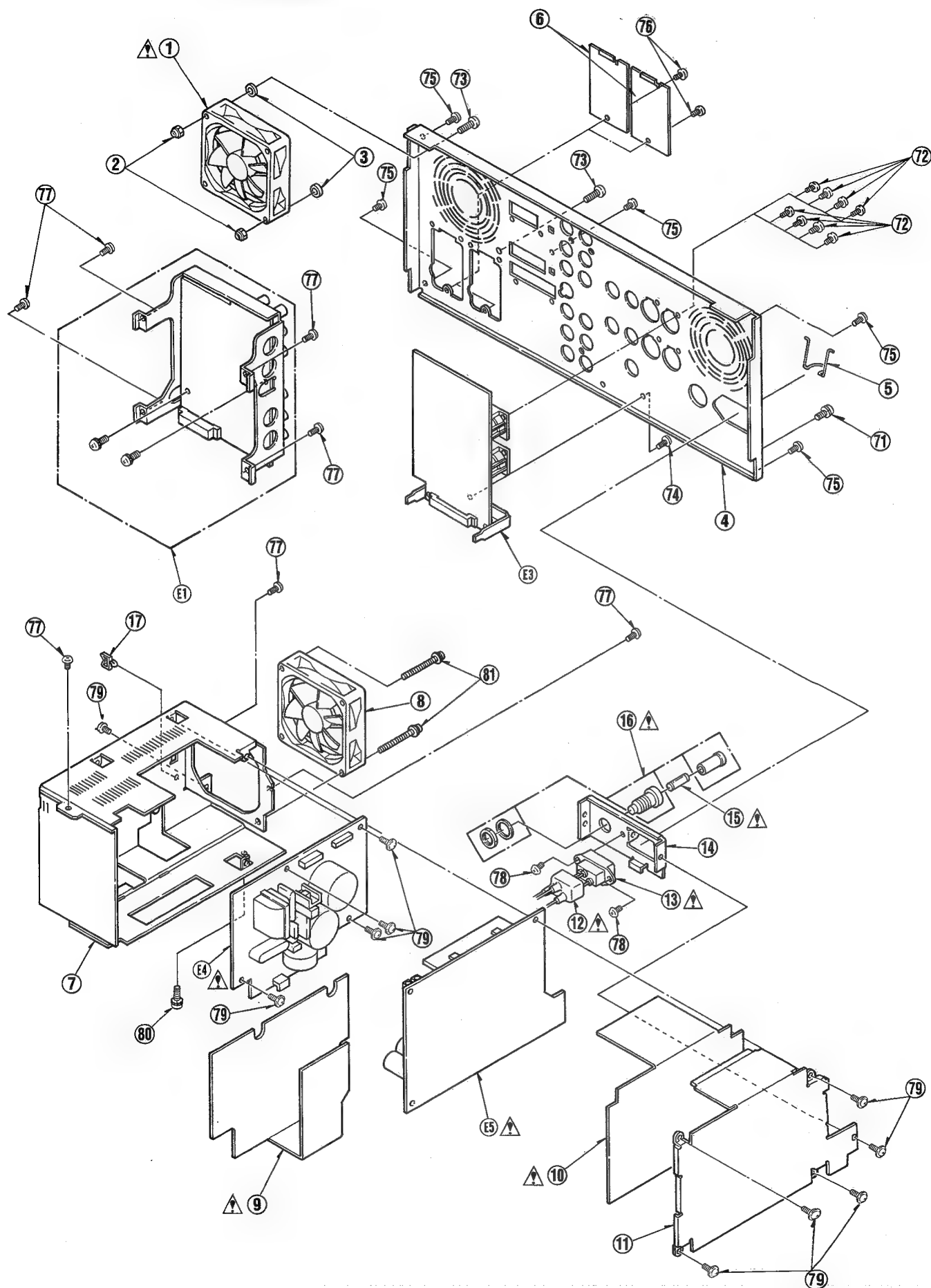
# CHASSIS FRAME ASSEMBLY



# CHASSIS FRAME ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VMP4871	LEFT SIDE FRAME	1	
2	VGQ4011	P. C. BOARD GUIDE RAIL A	2	
4	VGQ4012	P. C. BOARD GUIDE RAIL B	2	
5	VMP4877	REAR FRAME	1	
6	VKA0117	FPPT	4	
7	VMP4878	BOTTOM FRAME	1	
8	VMP4881	SW BRACKET	1	
9	EST15372T	POWER SWITCH	1	
10	VMZ0580	SW COVER	1	
11	VJF0285	M CLAMPER S	4	
12	VJF1259	EDGE HOLDER	1	
13	VMP4876	FRONT FRAME	1	
14	VJF0004	M CLAMPER L	3	
15	VMP4873	CENTER FRAME	1	
16	VXA5550	MECHANISM FRAME U.	1	
17	VMZ1525	FPG BARRIER	1	
18	VMP4874	CENTER SUB FRAME	1	
19	VMP5285	BOTTOM FRAME ANGLE	4	
20	VMP4875	MIDDLE FRAME	1	
22	VMP4872	SIDE FRAME R	1	
23	VJF0384	M CLAMPER M	2	
71	VHD5013	SCREW	2	
72	XTN3+6F	SCREW	2	
73	XTV3+6F	SCREW	27	
74	XTV3+6FR	SCREW	9	
76	XYNV3+K12S	SCREW	4	
E1		MOTHER P.C. BOARD	1	
E2		HEAD BUFF P.C. BOARD	1	
E3		AC HEAD IF P.C. BOARD	1	
E4		F1 SERVO P.C. BOARD	1	
E5		F2 SYSCON P.C. BOARD	1	
E6		F4 V OUT P.C. BOARD	1	
E7		F5 REC PB P.C. BOARD	1	
E8		F6 V IN P.C. BOARD	1	
E9		F7 A PROC P.C. BOARD	1	
E10		F8 ADDA CUE P.C. BOARD	1	
E12		H3 EQ P.C. BOARD	1	
E13		H4 RF AMP P.C. BOARD	1	

# REAR PANEL ASSEMBLY

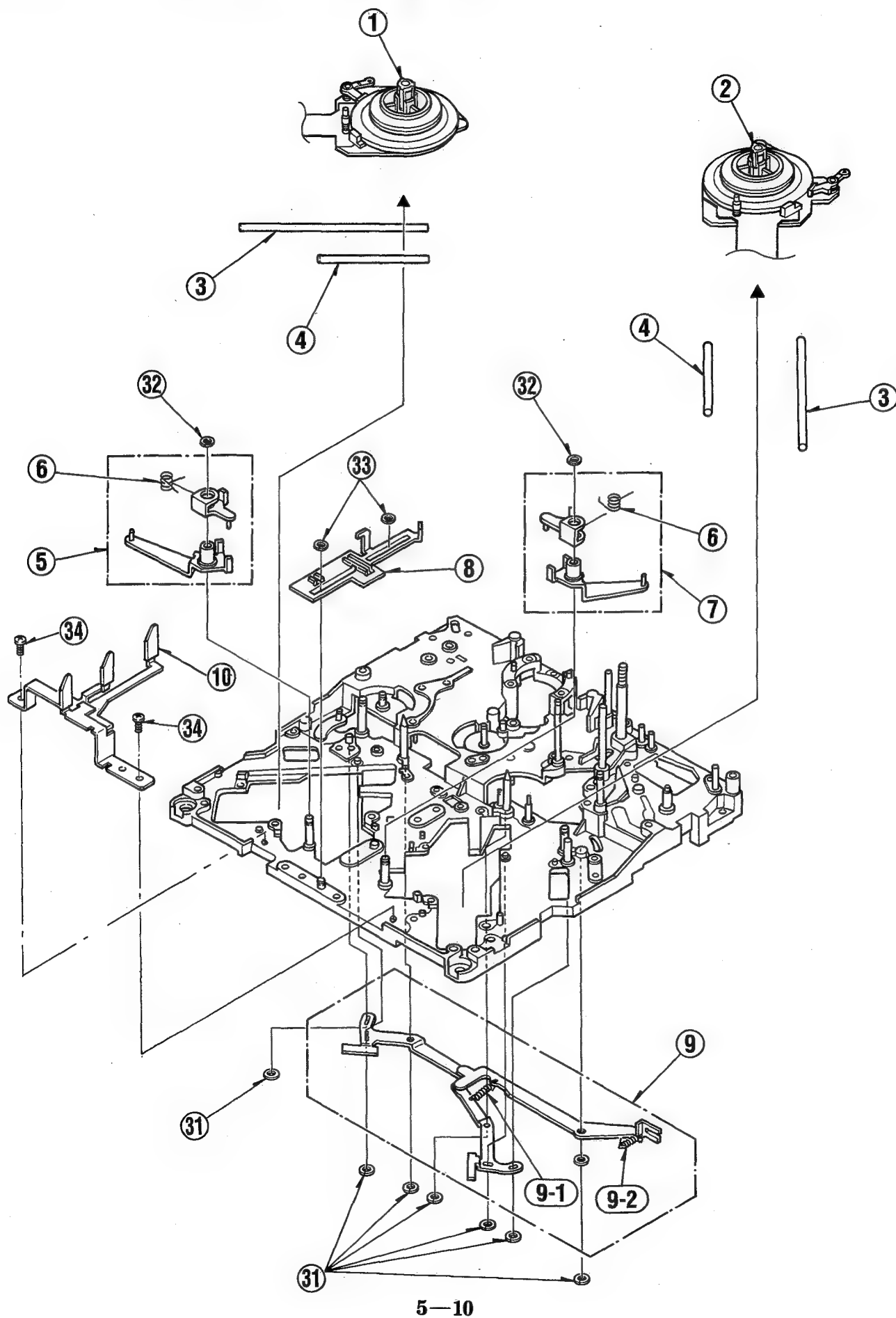


## REAR PANEL ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
A 1	VRF0190	FAN MOTOR	1	
2	VHNO063	NYLON NUT	2	
3	VMX0835	SPACER	2	
4	VJH0970	JACK PANEL	1	
5	VML2903	AG CORD HOOK	1	
6	VMP5032	OPTION PANEL	2	
7	VSG4387	POWER SUPPLY CASE A	1	
8	VRF0190	FAN MOTOR	1	
A 9	VMZ2502	SHIELD SHEET A	1	
A 10	VMZ2503	SHIELD SHEET B	1	
11	VSG4388	POWER SUPPLY CASE B	1	
A 12	VMZ1252	AG INLET COVER	1	
A 13	VJP0083	AG INLET	1	
14	VMP4889	AG INLET RACKET	1	
A 15	XBA1G50NB5	FUSE	1	
A 16	VJF1005	FUSE HOLDER	1	
17	VJF0285	M CLAMPER S	1	
71	XYE4+EF8	SCREW	1	
72	XSN26+6FZ	SCREW	8	
73	XSN4+35FGS	SCREW	2	
74	XTN26+6FFZ	SCREW	1	
75	XTV3+6F	SCREW	5	
76	XTV3+6FFZ	SCREW	4	
77	XTV3+6FR	SCREW	7	
78	XSB3+6FZ	SCREW	2	
79	XTW3+8LR	SCREW	4	
80	XYE4+EF8	SCREW	6	
81	XYNV4+K35FGS	SCREW	2	
E1		V/S JACK P.C. BOARD	1	
E3		A JACK P.C. BOARD	1	
A E4		POWER (1) P.C. BOARD	1	
A E5		POWER (2) P.C. BOARD	1	



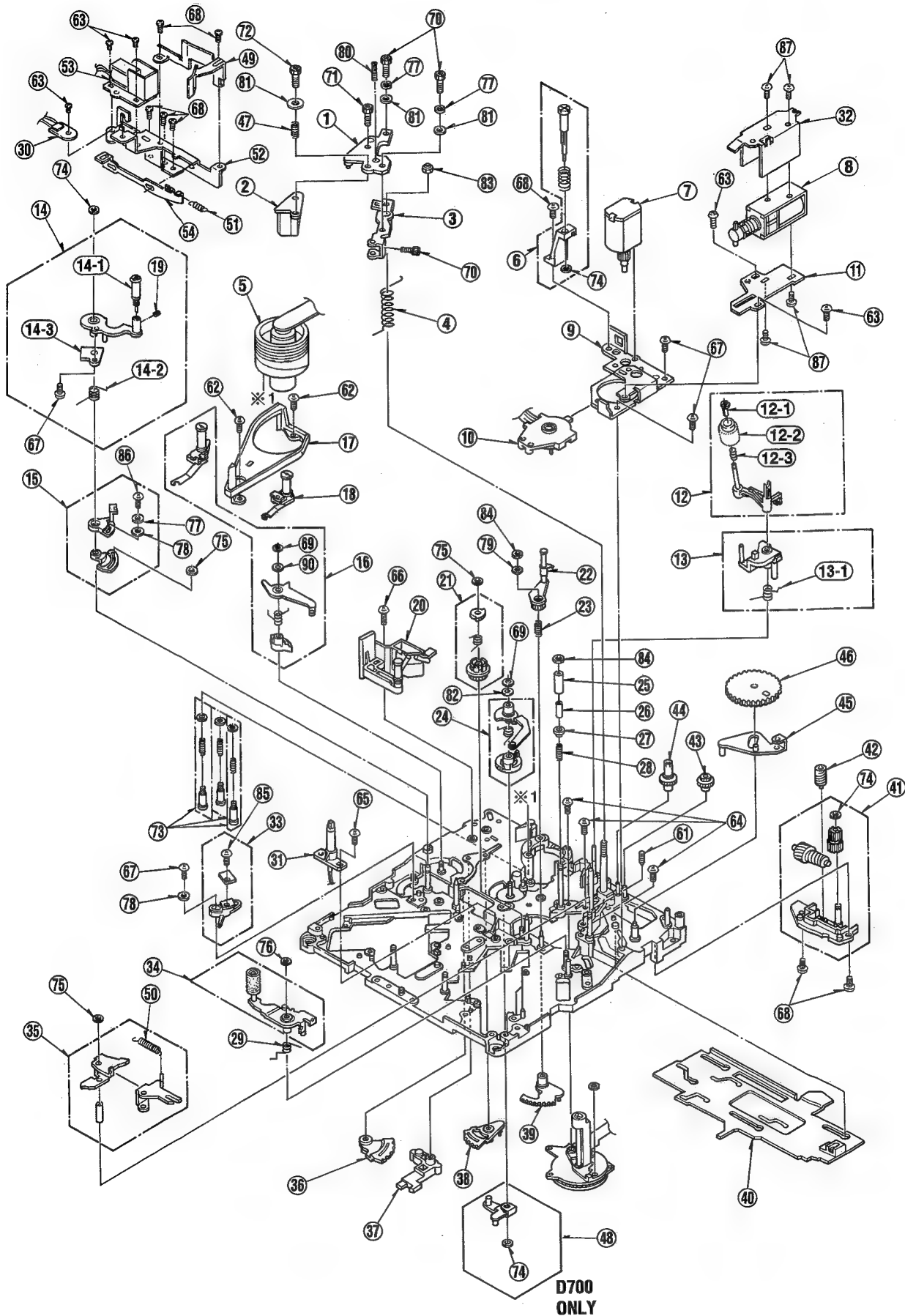
# MECHANICAL CHASSIS ASSEMBLY (1)



## MECHANICAL CHASSIS ASSEMBLY (1)

[illegible]

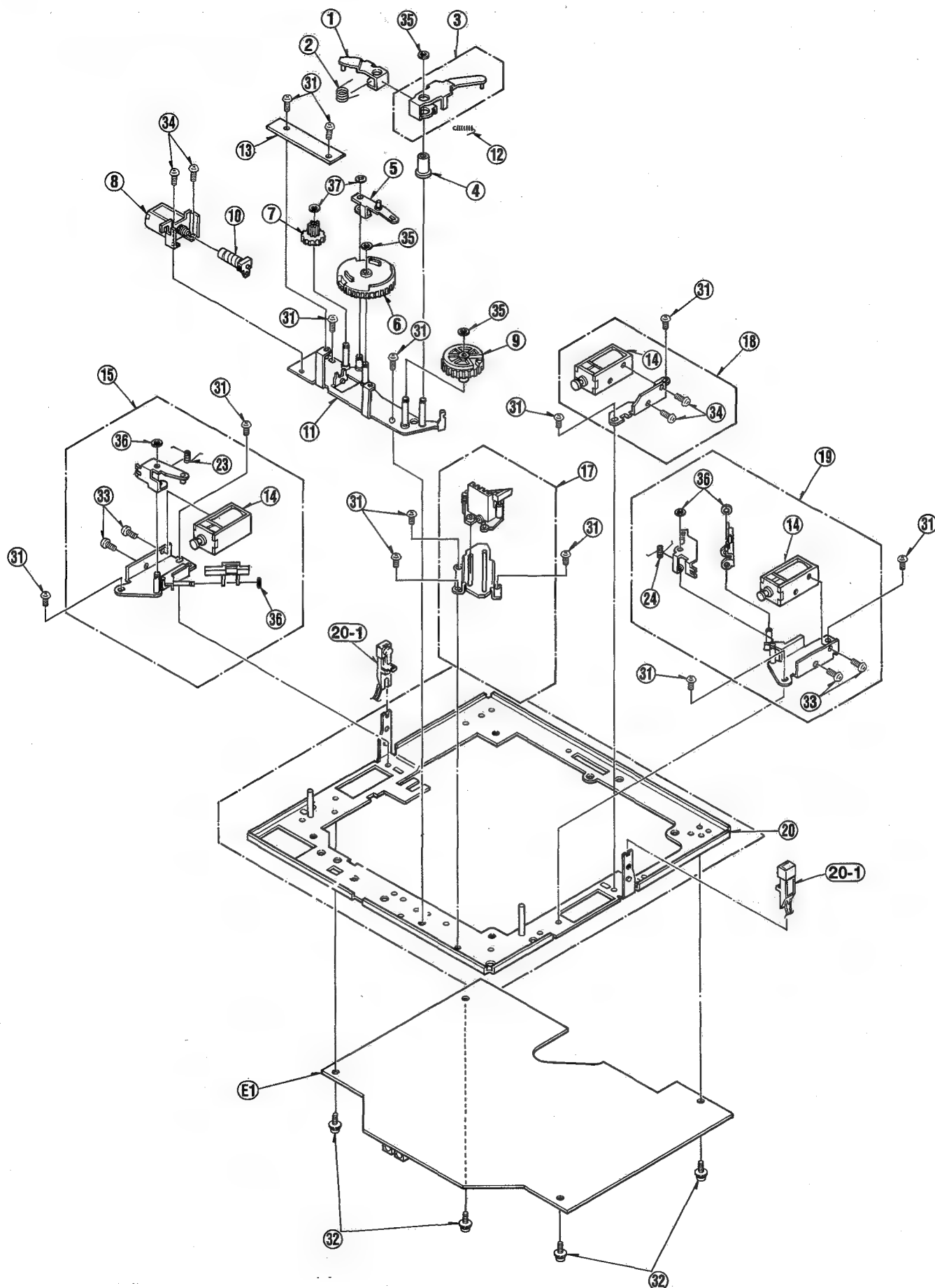
# MECHANICAL CHASSIS ASSEMBLY (2)



## MECHANICAL CHASSIS ASSEMBLY (2)

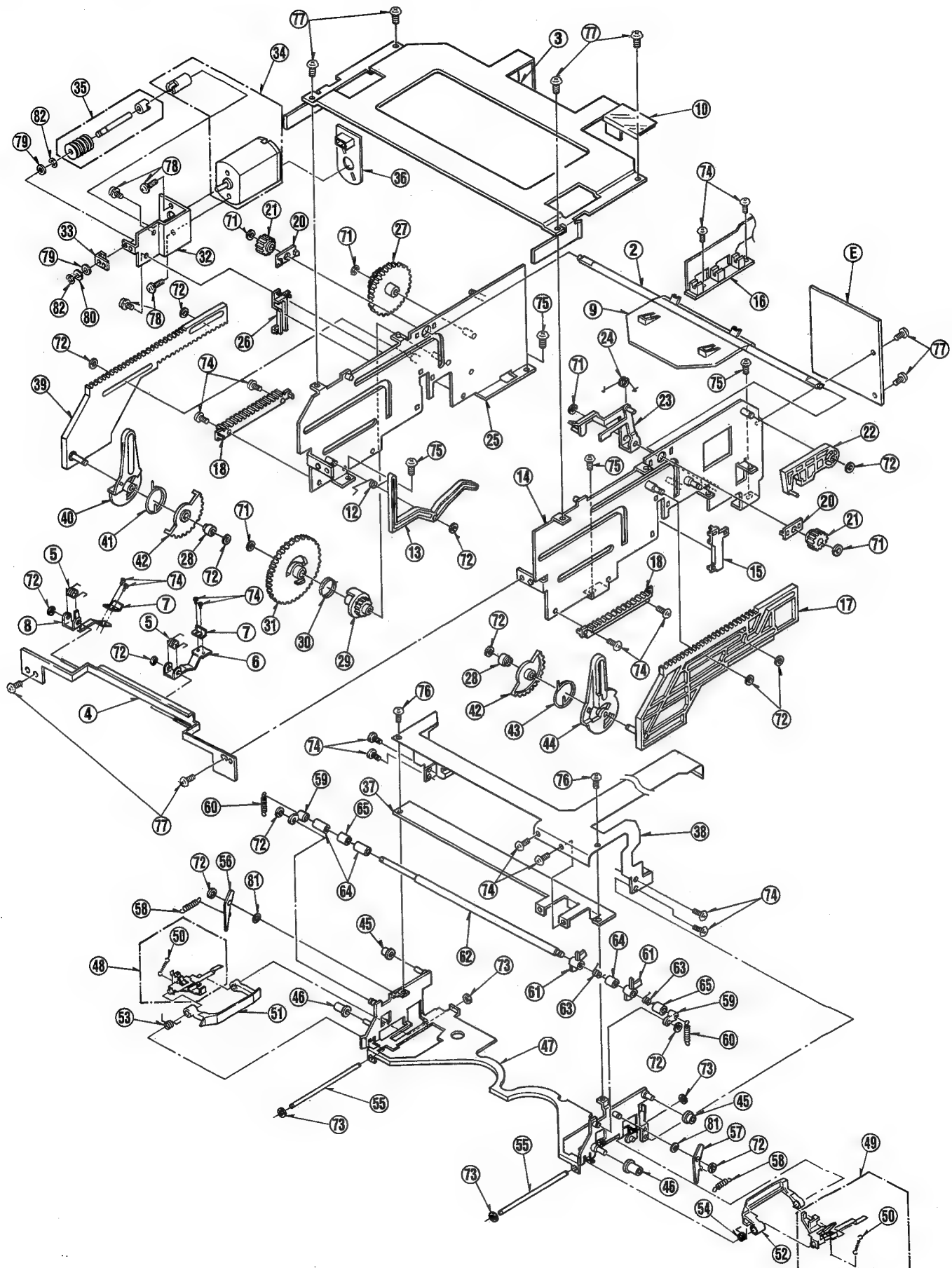
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VXA5554	A/C HEAD BASE (1)U	1		74	VMX0967	WASHER	5	
2	VBR0301	A/C HEAD	1		75	VMX1061	CUT WASHER	3	
3	VXA5555	A/C HEAD BASE (2)U	1		76	VMX1079	WASHER	1	
4	VMB2935	A/C HEAD HIGHT SPRING	1		77	XWA2B	WASHER	3	
5	VEG1337	CYLINDER UNIT	1		78	XWE2	WASHER	1	
6	VMD2581	EMARGENCY SHAFT HOLDER	1		79	XWE16VW	WASHER	1	
7	VEW0584	LOADING MOTOR (1) U	1		80	XXE2A6FP	HEX. SCREW	1	
8	VSJ0217	PINCH SOLENOID	1		81	XWG2	WASHER	3	
9	VXA5561	MOTOR ANGLE U	1		82	XWGV15Z328	WASHER	1	
10	VES0814	MODE SW U	1		83	VHD0045	NYLON NUT	1	
11	VMA9376	PINCH SOLENOID BASE	1		84	VHN0312	T3 POST NUT	2	
12	VXL2693	CLEANING ARM U	1		85	XQN2+A84	SCREW	1	
12-1	VMX2150	ROLLER HOLDER	1		86	XQN2+AJ5	SCREW	1	
12-2	VXP1326	CLEANER ROLLER UNIT	1		87	XQN2+A15	SCREW	4	
12-3	VMB1677	P9 POST SPRING	1						
13	VXL2707	T2 ARM U.	1						
13-1	VMB2932	T2 ARM SPRING	1						
14	VXL2734	TENSION ARM U.	1						
14-1	VXP1761	TENSION ROLLER	1						
14-2	VMB2931	TENSION LEG SPRING	1						
14-3	VXA5853	MAGNET HOLDER U	1						
15	VXA5791	TENSION REG. SPRING HOOK U	1						
16	VXL2709	S LOADING ARM U	1						
17	VMD2533	LOADING RAIL	1						
18	VXA5852	T1 BOAT U	1						
19	VHD0561	HEX. SCREW	1						
20	VXA5553	S POST BASE U	1						
21	VXP1683	T4 CONNECTION GEAR U	1						
22	VXL2687	T4 ARM U.	1						
23	VMB2950	T4 THRUST SPRING	1						
24	VXL2711	T LOADING ARM U.	1						
25	VMS5906	T3 UPPER FRANGE	1						
26	VMS5905	T3 SLEAVE	1						
27	VMS5904	T3 LOWER FRANGE	1						
28	VMB2929	T3 SPRING	1						
29	VMB2933	PINCH RELEASE SPRING	1						
30	VEK7716	DEW SENSOR	1						
31	VEK7681	LED HOLDER U.	1						
32	VMA9411	PINCH SOLENOID ANGLE	1						
33	VXA5820	TENSION SENSOR U.	1						
34	VXL2684	PINCH ARM U.	1						
35	VXL2588	PINCH GUIDE ARM U	1						
36	VXA5570	T SECTOR GEAR U	1						
37	VXL2582	TENSION REG. GUIDE ARM U	1						
38	VXA5567	S SECTOR GEAR U	1						
39	VXA5564	T4 SECTOR GEAR U	1						
40	VXA5563	MAIN ROD U	1						
41	VXA5627	THRUST SHIFT HOLDER U	1						
42	VDG1166	MOTOR WORM GEAR	1						
43	VDG1187	MOTOR EMARGENCY GEAR B	1						
44	VDG1186	MOTOR EMARGENCY GEAR A	1						
45	VXL2591	MAIN CAM ARM U	1						
46	VDG1168	MAIN CAM GEAR	1						
47	VMB2937	A/C HEAD ADJUST SPRING	1						
48	VXL2600	EJECT ARM U	1						
49	VXA5770	T1 GUIDE U.	1						
50	VMB2934	SPRING	1						
51	VMB3051	CLEANER RETURN SPRING	1						
52	VXA5768	CLEANER BASE 1 U.	1						
53	VXA5769	CLEANER SOLENOID U.	1						
54	VMM0415	CLEANER INTERLOCK	1						
61	VHD0356	SCREW	1						
62	XQN2+A3	SCREW	2						
63	XQN2+A2	SCREW	5						
64	XQN2+A35FZ	SCREW	3						
65	XQN2+AM2	SCREW	1						
66	XQN2+AM4	SCREW	1						
67	XQN2+CF3	SCREW	4						
68	XQN2+CF4	SCREW	8						
69	XUC12FP	E-RING	2						
70	XVE2B4FZ	SCREW	3						
71	XVE2B6FP	SCREW	1						
72	XVE2B12FP	SCREW	1						
73	VXQ0439	CYLINDER SCREW U.	3						

# SUB CHASSIS ASSEMBLY



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# CASSETTE COMPARTMENT ASSEMBLY

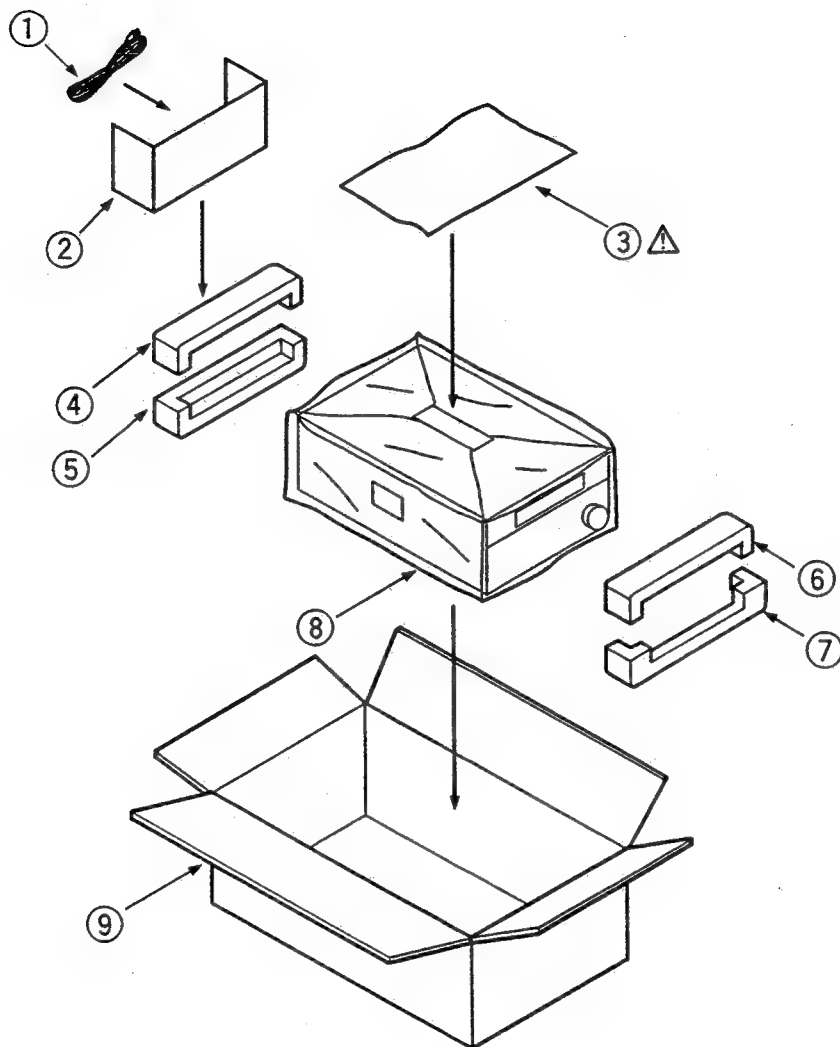


# CASSETTE COMPARTMENT ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	VXA5850	CASSETTE COMPARTMENT U	1		82	XUC2FP	E-RING	2	
2	VMS5865	MAIN SHAFT	1						
3	VMA9536	TOP PLATE	1						
4	VXA5761	FRONT GUIDE 1 U	1						
5	VMB3075	M GUIDE SPRING	2						
6	VML3191	M GUIDE LEVER R	1						
7	VML3192	M FRONT GUIDE	2						
8	VML3190	M GUIDE LEVER L	1						
9	VML3196	CASSETTE PROTECT PLATE	1						
10	VMZ2628	CABLE PROTECT SHEET	1						
12	VMB2926	OPENER SPRING	1						
13	VML2A50	BLINDER PANEL OPENER	1						
14	VXA5764	SIDE PLATE R U	1						
15	VML2A51	SUB RAIL (R)	1						
16	VEK7695	SIDE FLEXIBLE	1						
17	VXA5766	MAIN RACK U	1						
18	VDG1156	WIPER RACK	2						
20	VDB1395	MAIN SHAFT ANGLE	2						
21	VDG1155	INTERLOCK GEAR	2						
22	VML3193	OPENER DRIVE ARM	1						
23	VXL2692	OPENER ANGLE U.	1						
24	VMB2979	SPRING	1						
25	VXA5762	SIDE PLATE L U.	1						
26	VML2A48	SUB RAIL (L)	1						
27	VDG1158	INTERMEDIATE GEAR	1						
28	VDP1643	WIPER ROLLER	2						
29	VDG1237	CLUTCH GEAR	1						
30	VMB2980	CLUTCH SPRING	1						
31	VDG1236	WORM WHEEL	1						
32	VMA9421	MOTOR ANGLE	1						
33	VMD2535	THRUST HOLDER	1						
34	VXA5597	MOTOR U.	1						
35	VXP1687	WORM SHAFT U.	1						
36	VEK7793	MOTOR C.B.A.	1						
37	VMA9668	HOLDER PLATE	1						
38	VEK7715	HOLDER FLEXIBLE U.	1						
39	VXA5596	MAIN RACK (L) U.	1						
40	VML2A49	WIPER ARM L	1						
41	VMB2925	WIPER SPRING L	1						
42	VDG1163	WIPER GEAR	2						
43	VMB3013	WIPER SPRING R	1						
44	VML2A52	WIPER ARM R	1						
45	VDP1642	CASSETTE GUIDE ROLLER (2)	2						
46	VDP1641	CASSETTE GUIDE ROLLER (1)	2						
47	VXA5757	CASSETTE HOLDER 1 U	1						
48	VXA5758	KICK OFF ROD L U	1						
49	VXA5759	KICK OFF ROD R U	1						
50	VMB3064	SLIDE SPRING	2						
51	VML3194	SIDE GUIDE L	1						
52	VML3195	SIDE GUIDE R	1						
53	VMB3061	SIDE GUIDE SPRING L	1						
54	VMB3062	SIDE GUIDE SPRING R	1						
55	VMS6108	KICK OFF ROD SHAFT	2						
56	VML2A54	KICK OFF ARM L	1						
57	VML2A55	KICK OFF ARM R	1						
58	VMB2928	KICK OFF SPRING	2						
59	VML2A53	CASSETTE HOLDER ARM	2						
60	VMB2927	CASSETTE HOLDER SPRING	2						
61	VMX2525	ML DETECTION ROLLER	2						
62	VMS5882	CASSETTE HOLDER SHAFT	1						
63	VMB3059	ML DETECTION SPRING	2						
64	VMX2559	CASSETTE PRESSURE ROLLER (2)	3						
65	VMX2524	CASSETTE PRESSURE ROLLER (1)	2						
71	VMX0653	GUT WASHER	5						
72	VMX0967	WASHER	14						
73	VMX1061	GUT WASHER	4						
74	XQN16+A2	SCREW	16						
75	XQN2+CF3	SCREW	4						
76	XQN16+A25	SCREW	2						
77	XQN2+A3	SCREW	8						
78	XVN2+C3	SCREW	4						
79	XWGV2D5G	WASHER	2						
80	XWGV2Y4G	WASHER	1						
81	XWGV2Z5G	WASHER	2						



## PACKING PARTS ASSEMBLY



## PACKING PARTS ASSEMBLY

[illegible]

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OTH

# ELECTRICAL REPLACEMENT PARTS LIST

	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks		Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
F1		■ VEP80A11A	P. C. BOARD W/COMPONENT	1	(RTL)						
			MOTHER								
F2		■ VEP82105A	P. C. BOARD W/COMPONENT	1	(RTL)						
			F1 SERVO								
F2		■ VEP86146C	P. C. BOARD W/COMPONENT	1	(RTL) AJ-D650P						
			F2 SYSCON								
F2		■ VEP84146D	P. C. BOARD W/COMPONENT	1	(RTL) AJ-D640P						
			F2 SYSCON								
F4		■ VEP83352A	P. C. BOARD W/COMPONENT	1	(RTL)						
			F4 V OUT								
F4		■ VEP83353A	P. C. BOARD W/COMPONENT	1	(RTL)						
			F5 REC PB								
F5		■ VEP83355A	P. C. BOARD W/COMPONENT	1	(RTL)						
			F6 V IN								
F5		■ VEP84292A	P. C. BOARD W/COMPONENT	1	(RTL)						
			F7 A PROG								
F6		■ VEP84293A	P. C. BOARD W/COMPONENT	1	(RTL)						
			F8 ADDA CUE								
F6		■ VEP85048A	P. C. BOARD W/COMPONENT	1	(RTL)						
			H3 EQ								
F7		■ VEP85049A	P. C. BOARD W/COMPONENT	1	(RTL)						
			H4 RF AMP								
F7		■ VEP85151A	P. C. BOARD W/COMPONENT	1	(RTL)						
			HEAD BUFF								
F8		■ VEP83224B	P. C. BOARD W/COMPONENT	1	(RTL)						
			V/S JACK								
F8		■ VEP81074A	P. C. BOARD W/COMPONENT	1	(RTL)						
			POWER (1)								
H3		■ VEP81075A	P. C. BOARD W/COMPONENT	1	(RTL)						
			POWER (2)								
H3		■ VEP80856A	P. C. BOARD W/COMPONENT	1	(RTL)						
			CARRIGE								
H4		■ VEP82214A	P. C. BOARD W/COMPONENT	1	(RTL)						
			MECH I/F								
H4		■ VEP82210A	P. C. BOARD W/COMPONENT	(RTL)							
			MECH IF SUB								
THER		■ VEP84291A	P. C. BOARD W/COMPONENT	1	(RTL)						
			A JACK								
THER		■ VEP80A12A	P. C. BOARD W/COMPONENT	1	(RTL)						
			TC & JACK								
THER		■ VEP86256A	P. C. BOARD W/COMPONENT	1	(RTL)						
			FRONT CPU								
THER		■ VEP80A09A	P. C. BOARD W/COMPONENT	1	(RTL)						
			EJECT								
THER		■ VEP80A10A	P. C. BOARD W/COMPONENT	1	(RTL)						
			HEAD PHONE								
THER		■ VEP80991A	P. C. BOARD W/COMPONENT	1	(RTL)						
			AC HEAD IF								

## VEP80A11A / VEP82105A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	■ VEP80A11A	P. C. BOARD W/COMPONENT	1 (RTL)	
		MOTHER		
P001-16	VJS3814	CONNECTOR (FEMALE)	16	
P019, 20	VJS3814	CONNECTOR (FEMALE)	2	
P021	VJP3095	CONNECTOR (MALE)	1	
P022	VJP3091	CONNECTOR (MALE)	1	
P023	VJP2891A030	CONNECTOR (MALE)	1	
P024	VJP3418A080	CONNECTOR (MALE)	1	
P025	VJP2824B003	CONNECTOR (MALE)	1	
P026	VJP2824B006	CONNECTOR (MALE)	6P	
P027	VJP2824B008	CONNECTOR (MALE)	1	
P029, 30	VJS3375B060	CONNECTOR (FEMALE)	2	
P031	VJP3080	CONNECTOR (MALE)	1	
P032	VJP1230T	CONNECTOR (MALE)	3P	
P033	VJP3375A060	CONNECTOR (MALE)	1	
P036	VJP3090	CONNECTOR (MALE)	1	
		MISCELLANEOUS		
18	VMZ2139	FUSE HOLDER COVER	1	
82	XTV3+10GFZ	SCREW	3	
83	XYE4+EF6	SCREW	1	
	■ VEP82105A	P. C. BOARD W/COMPONENT	1 (RTL)	
		FI SERVO		
G1, G2	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G3	ECEV1GV220Q	E. CAPACITOR CH 16V 22U	1	
G4	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G5, G6	ECEV1GV220Q	E. CAPACITOR CH 16V 22U	2	
G7	ECUMTH222KBN	C. CAPACITOR CH 50V 2200P	1	
G8, G9	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G10	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	1	
G11, 12	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G13	ECUMTH101JCN	C. CAPACITOR CH 50V 100P	1	
G14	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G15	ECUMTH222KBN	C. CAPACITOR CH 50V 2200P	1	
G30-34	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	5	
G35	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	1	
G36-38	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	3	
G39	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
G40, 41	ECUMTH333KBN	C. CAPACITOR CH 50V 0.033U	2	
G42, 43	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G60, 61	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G63-74	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	12	
G80, 81	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	2	
G82	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G83	ECUMTH1000CN	C. CAPACITOR CH 50V 10P	1	
G84	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G85, 86	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2	
G87	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G88	ECUMTH1000CN	C. CAPACITOR CH 50V 10P	1	
G89, 90	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	2	
G91	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G92, 93	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2	
G94, 95	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G120, 21	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	2	
G123	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G124, 25	ECUMTH1000CN	C. CAPACITOR CH 50V 10P	2	
G126	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G127, 28	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2	
G129, 30	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G131, 32	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	2	
G133, 34	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2	
G135	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G160, 61	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	2	
G162	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G163, 64	ECUMTH1000CN	C. CAPACITOR CH 50V 10P	2	
G165	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G166, 67	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2	
G168, 69	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G170, 71	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	2	
G172	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G173, 74	ECEV1EV330Q	E. CAPACITOR CH 25V 33U	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
G175	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G200	ECUMTH472KBN	C. CAPACITOR CH 50V 4700P	1	
G202, 03	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G204	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G205-07	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	3	
G208-10	ECUMTH472KBN	C. CAPACITOR CH 50V 4700P	3	
G211	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G212, 13	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G214	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G215, 16	ECUMTH104KBN	C. CAPACITOR CH 25V 0.1U	2	
G218	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G230-32	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	3	
G233-36	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	4	
G237	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G238	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G239	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G240-49	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	10	
G250, 51	ECUMTH120JCN	C. CAPACITOR CH 50V 12P	2	
G260, 61	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G263-70	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	8	
G280-86	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	7	
G300-02	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	3	
G303	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G304-08	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	5	
G309	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G320, 21	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G322	ECUMTH104ZFN	C. CAPACITOR CH 50V 0.1U	1	
G323	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
G324	ECUMTH682KBN	C. CAPACITOR CH 50V 6800P	1	
G325, 26	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	2	
G327, 28	ECUMTH104ZFN	C. CAPACITOR CH 50V 0.1U	2	
G329	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
G330	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	1	
G331-34	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	4	
G335, 36	ECUMTH0800CN	C. CAPACITOR CH 50V 8P	2	
G337	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G340	ECUMTH104ZFN	C. CAPACITOR CH 50V 0.1U	1	
G341	EGATEXLV101X	E. CAPACITOR 25V 100U	1	
G342, 43	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G344	ECUMTH682KBN	C. CAPACITOR CH 50V 6800P	1	
G345	EGATEXLV101X	E. CAPACITOR 25V 100U	1	
G346-48	ECUMTH104ZFN	C. CAPACITOR CH 50V 0.1U	3	
G349-53	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	5	
G354	ECUMTH102JCN	C. CAPACITOR CH 50V 1000P	1	
G355	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G356	ECUMTH104ZFN	C. CAPACITOR CH 50V 0.1U	1	
G357	ECUMTH682KBN	C. CAPACITOR CH 50V 6800P	1	
G358	EGATEXLV101X	E. CAPACITOR 25V 100U	1	
G359	ECUMTH104ZFN	C. CAPACITOR CH 50V 0.1U	1	
G360	EGATEXLV101X	E. CAPACITOR 25V 100U	1	
G361	ECUMTH104ZFN	C. CAPACITOR CH 50V 0.1U	1	
G362	EGATEXLV101X	E. CAPACITOR 25V 100U	1	
G380, 81	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G382	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G383	ECUMTH682KBN	C. CAPACITOR CH 50V 6800P	1	
G384	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G385, 86	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G387	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G388	ECUMTH682KBN	C. CAPACITOR CH 50V 6800P	1	
G389	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G390	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G391	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G400	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G401-03	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	3	
G404-06	ECUMTH104KBN	C. CAPACITOR CH 25V 0.1U	3	
G407	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
G408	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	
G409-11	ECUMTH104ZFN	C. CAPACITOR CH 50V 0.1U	3	
G412, 13	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	2	
G414	ECUMTH105KBN	C. CAPACITOR CH 16V 1U	1	
G415	ECUMTH152KBN	C. CAPACITOR CH 50V 1500P	1	
G416-18	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	3	
G419	ECEV1HV470Q	E. CAPACITOR CH 50V 4.7U	1	
G420	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
G421	ECUMTH103KBN	C. CAPACITOR CH 50V 0.01U	1	

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## VEP82105A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C422	EGUM1H331JCN	C. CAPACITOR GH 50V 330P	1	
C423	EGEV1CV470Q	E. CAPACITOR GH 16V 47U	1	
C424-27	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	4	
C428, 29	EGUM1E104KBN	C. CAPACITOR GH 25V 0.1U	2	
C430	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C431	EGEV1CV100Q	E. CAPACITOR GH 16V 10U	1	
C432-34	EGUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	
C450	EGUM1H223KBN	C. CAPACITOR GH 50V 0.022U	1	
C451, 52	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	2	
C453, 54	EGUM1E473KBN	C. CAPACITOR GH 25V 0.047U	2	
C455	EGUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C456	EGEV1HV2R2Q	E. CAPACITOR GH 50V 2.2U	1	
C457	EGUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C458, 59	EGEV1HV2R2Q	E. CAPACITOR GH 50V 2.2U	2	
C460	EGUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C461	EGUM1E473KBN	C. CAPACITOR GH 25V 0.047U	1	
C462	EGUM1H472KBN	C. CAPACITOR GH 50V 4700P	1	
C463	EGUM1H333KBN	C. CAPACITOR GH 50V 0.033U	1	
C464	EGUM1H472KBN	C. CAPACITOR GH 50V 4700P	1	
C465	EGUM1H333KBN	C. CAPACITOR GH 50V 0.033U	1	
C466	EGUM1H472KBN	C. CAPACITOR GH 50V 4700P	1	
C467	EGUM1H333KBN	C. CAPACITOR GH 50V 0.033U	1	
C468, 69	EGUM1E104KBN	C. CAPACITOR GH 25V 0.1U	2	
C470	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C471	EGEV1CV100Q	E. CAPACITOR GH 16V 10U	1	
C472	EGUM1C474KBN	C. CAPACITOR GH 16V 0.47U	1	
C473	EGUM1H223KBN	C. CAPACITOR GH 50V 0.022U	1	
C474, 75	EGUM1E473KBN	C. CAPACITOR GH 25V 0.047U	2	
C476	EGUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C477, 78	EGEV1HV2R2Q	E. CAPACITOR GH 50V 2.2U	2	
C479	EGUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C480	EGEV1HV2R2Q	E. CAPACITOR GH 50V 2.2U	1	
C481	EGUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C482	EGUM1E473KBN	C. CAPACITOR GH 25V 0.047U	1	
C483	EGUM1H472KBN	C. CAPACITOR GH 50V 4700P	1	
C484	EGUM1H333KBN	C. CAPACITOR GH 50V 0.033U	1	
C485	EGUM1H472KBN	C. CAPACITOR GH 50V 4700P	1	
C486	EGUM1H333KBN	C. CAPACITOR GH 50V 0.033U	1	
C487	EGUM1H472KBN	C. CAPACITOR GH 50V 4700P	1	
C488	EGUM1H333KBN	C. CAPACITOR GH 50V 0.033U	1	
C489, 90	EGUM1E104KBN	C. CAPACITOR GH 25V 0.1U	2	
C491	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C492	EGEV1CV100Q	E. CAPACITOR GH 16V 10U	1	
C493	EGUM1C474KBN	C. CAPACITOR GH 16V 0.47U	1	
C510	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C511	EGEV1CV470Q	E. CAPACITOR GH 16V 47U	1	
C512, 13	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	2	
C514	EGEV1CV470Q	E. CAPACITOR GH 16V 47U	1	
C515	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C516	EGEV1EV330Q	E. CAPACITOR GH 25V 33U	1	
C517-19	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	3	
C520	EGEV1EV330Q	E. CAPACITOR GH 25V 33U	1	
C521	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C522, 23	EGEV1HV010Q	E. CAPACITOR GH 50V 1U	2	
C524	EGEV1EV330Q	E. CAPACITOR GH 25V 33U	1	
C525	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C526	EGEV1EV330Q	E. CAPACITOR GH 25V 33U	1	
C527, 28	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	2	
C529	EGEV1EV330Q	E. CAPACITOR GH 25V 33U	1	
C530-32	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	3	
C533	EGEV1AV330Q	E. CAPACITOR GH 10V 33U	1	
C534	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C535	EGEV1EV330Q	E. CAPACITOR GH 25V 33U	1	
C536	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C537	EGEV1HV010Q	E. CAPACITOR GH 50V 1U	1	
C538	EGEV1EV330Q	E. CAPACITOR GH 25V 33U	1	
C539	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	1	
C600, 01	EGUM1H103KBN	C. CAPACITOR GH 50V 0.01U	2	
D1, D2	MA157	DIODE	2	
D3, D4	MA8075-H	DIODE	2	
D30, 31	MA8030	DIODE	2	
D32	MA8047-H	DIODE	1	
D33-35	MA152K	DIODE	3	
D80-83	MA157	DIODE	4	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D120-23	MA157	DIODE	4	
D160-63	MA157	DIODE	4	
D200, 01	MA152K	DIODE	2	
D202	MA8047-H	DIODE	1	
D203	MA152K	DIODE	1	
D204, 05	MA8047-H	DIODE	2	
D206-09	MA152K	DIODE	4	
D300-02	LN1251CAL	DIODE	3	
D320, 21	MA157	DIODE	2	
D340	MA728	DIODE	1	
D341	MA736	DIODE	1	
D342	MA728	DIODE	1	
D343	MA736	DIODE	1	
D344	MA8039-L	DIODE	1	
D380	MA728	DIODE	1	
D381	MA736	DIODE	1	
D382	MA728	DIODE	1	
D383	MA736	DIODE	1	
D400-05	MA738	DIODE	6	
D406, 07	MA8047-H	DIODE	2	
D408-13	MA738	DIODE	6	
D450	MA152K	DIODE	1	
D451-56	MA738	DIODE	6	
D457	MA152K	DIODE	1	
D458-63	MA738	DIODE	6	
D510-13	MA701A	DIODE	4	
D514-19	MA704A	DIODE	6	
FL320, 21	VLF1016A470	FILTER	2	
FL510-15	VLF1016A470	FILTER	6	
IC1	TC7WU04F	IC	1	
IC2	UPC408262	IC	1	
IC3	MC14052BF	IC	1	
IC30	UPC408262	IC	1	
IC31	NJM4580ED	IC	1	
IC32	AD633JR	IC	1	
IC33	UPC408262	IC	1	
IC34	MC74HC74AF	IC	1	
IC35	TC7W00F	IC	1	
IC60, 61	MC74HC08AF	IC	2	
IC63-66	MC74HC74AF	IC	4	
IC67	MC74HC157AF	IC	1	
IC68	T74HC191AF	IC	1	
IC69	MC74HC32AF	IC	1	
IC70	MC74HC86F	IC	1	
IC71	MC74HC04AF	IC	1	
IC72	MC74HC74AF	IC	1	
IC73	MC74HC11F	IC	1	
IC74	MC74HC27F	IC	1	
IC80, 81	UPC474162	IC	2	
IC82	NJM2901M	IC	1	
IC83	MC74HC4050F	IC	1	
IC120, 21	UPC474162	IC	2	
IC160	NJM2901M	IC	1	
IC161, 62	UPC474162	IC	2	
IC200	AD6408BR	IC	1	
IC201	AD7896AR	IC	1	
IC202	AD7943BR	IC	1	
IC203	SMP08FS	IC	1	
IC204	MC74HC244AF	IC	1	
IC205	UPC408262	IC	1	
IC207	UPC408262	IC	1	
IC230	MC68332ACFC2	IC	1	
IC231	TL7705GPSB	IC	1	
IC235	VS12167L	IC	1	
IC236, 37	74AC745J	IC	2	
IC238, 39	TC7WU04F	IC	2	
IC240	74AG08SJ	IC	1	
IC241	MC74HC244AF	IC	1	
IC260, 61	Y7C18525SC	IC	2	
IC262	IDT71321A55	IC	1	
IC263, 64	SN74S1051NS	IC	2	
IC265	MC74HC175F	IC	1	
IC266	MC74HC164F	IC	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC267	MC74HC273AF	IC	1	
IC268	MC74HC74AF	IC	1	
IC269	MC74HC86F	IC	1	
IC280	MC74HC244AF	IC	1	
IC281	MC74HC151F	IC	1	
IC282	SLA909SF1G	IC	1	
IC300	TE7751	IC	1	
IC301, 02	MC74HC244AF	IC	2	
IC303	T74VHGT244F	IC	1	
IC304, 05	MC74HC244AF	IC	2	
IC320	SG371025AVFU	IC	1	
IC321	MC14053BF	IC	1	
IC322	MC74HC574AF	IC	1	
IC323	TC7WU04F	IC	1	
IC324	T74VHGU04F	IC	1	
IC325	74AC74SJ	IC	1	
IC326	MC74HC74AF	IC	1	
IC340	TL1451CNS	IC	1	
IC341	UPC39362	IC	1	
IC342	NJM4580ED	IC	1	
IC400, 01	AN3890FBS	IC	2	
IC402	NJM4580ED	IC	1	
IC403	NJM2903M	IC	1	
IC404	NJM4580ED	IC	1	
IC450, 51	AN3834K	IC	2	
IC452	UPC455802	IC	1	
IC510, 11	NJM78L09UA	IC	2	
IC512, 13	NJM79L09UA	IC	2	
IC514	NJM78L05UA	IC	1	
IC515, 16	XC62AP3002P	IC	2	
IC517	NJM79L05UA	IC	1	
IC600	NJM2903M	IC	1	
IS235	VJS3096640	CONNECTOR (FEMALE)	1	
L230, 31	VLQ0576	COIL	2	
L340	VLQ0504331K	COIL	1	
L341	VLQ0407120M	COIL 12UH	1	
L342	VLQ0504331K	COIL	1	
L380	VLQ0407120M	COIL 12UH	1	
L381, 82	VLQ0504331K	COIL	2	
L510	VLP0133	COIL	1	
P1, P2	VJP34548096	CONNECTOR (MALE)	2	
Q1	2SD601A-R	TRANSISTOR	1	
Q2, Q3	2SB709A-R	TRANSISTOR	2	
Q4	2SD601A-R	TRANSISTOR	1	
Q5	2SB709A-R	TRANSISTOR	1	
Q6	2SD601A-R	TRANSISTOR	1	
Q340, 41	2SB1174-Q	TRANSISTOR	2	
Q380, 81	2SB1174-Q	TRANSISTOR	2	
Q400	PU3210	TRANSISTOR	1	
Q401	PU3110	TRANSISTOR	1	
Q402	PU3210	TRANSISTOR	1	
Q403	PU3110	TRANSISTOR	1	
Q510, 11	2SD601A-R	TRANSISTOR	2	
QR1	UN2213	TRANSISTOR-RESISTOR	1	
QR2	UN2113	TRANSISTOR-RESISTOR	1	
QR3	UN2215	TRANSISTOR-RESISTOR	1	
QR4	UN2115	TRANSISTOR-RESISTOR	1	
QR5, R6	UN2213	TRANSISTOR-RESISTOR	2	
QR7, R8	UN2113	TRANSISTOR-RESISTOR	2	
QR30	UN2213	TRANSISTOR-RESISTOR	1	
QR81, 82	UN2213	TRANSISTOR-RESISTOR	2	
QR83	UN2113	TRANSISTOR-RESISTOR	1	
QR84	UN2213	TRANSISTOR-RESISTOR	1	
QR85	UN2113	TRANSISTOR-RESISTOR	1	
QR120	UN2213	TRANSISTOR-RESISTOR	1	
QR121	UN2113	TRANSISTOR-RESISTOR	1	
QR122	UN2213	TRANSISTOR-RESISTOR	1	
QR123	UN2113	TRANSISTOR-RESISTOR	1	
QR124	UN2213	TRANSISTOR-RESISTOR	1	
QR160	UN2213	TRANSISTOR-RESISTOR	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
QR161	UN2113	TRANSISTOR-RESISTOR	1	
QR162	UN2213	TRANSISTOR-RESISTOR	1	
QR163	UN2113	TRANSISTOR-RESISTOR	1	
QR164	UN2213	TRANSISTOR-RESISTOR	1	
QR340, 41	UN2111	TRANSISTOR-RESISTOR	2	
QR400	UN2213	TRANSISTOR-RESISTOR	1	
QR401	UN2113	TRANSISTOR-RESISTOR	1	
QR600	UN2217	TRANSISTOR-RESISTOR	1	
QR601	UN2211	TRANSISTOR-RESISTOR	1	
R1-R3	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	3	
R4	VRE0034E471	M. RESISTOR CH 1/10W 470	1	
R5	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R6	VRE0034E471	M. RESISTOR CH 1/10W 470	1	
R7	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	1	
R8	ERJ66EYG0563	M. RESISTOR CH 1/10W 56K	1	
R9, 10	ERJ66EYG104	M. RESISTOR CH 1/10W 100K	2	
R11	ERJ66EYG0563	M. RESISTOR CH 1/10W 56K	1	
R12, 13	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	2	
R14	ERJ66EYJ274	M. RESISTOR CH 1/10W 270K	1	
R15	ERJ66EYG823	M. RESISTOR CH 1/10W 82K	1	
R16	ERJ66EYG153	M. RESISTOR CH 1/10W 15K	1	
R17	ERJ66EYG272	M. RESISTOR CH 1/10W 2.7K	1	
R18	ERJ66EYG823	M. RESISTOR CH 1/10W 82K	1	
R19, 20	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	2	
R21	ERJ66EYG104	M. RESISTOR CH 1/10W 100K	1	
R25-29	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	5	
R31	ERJ66EYG183	M. RESISTOR CH 1/10W 18K	1	
R32	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R33	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
R34	VRE0034E563	M. RESISTOR CH 1/10W 56K	1	
R35	ERJ66EYG223	M. RESISTOR CH 1/10W 22K	1	
R36	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R37	VRE0034E823	M. RESISTOR CH 1/10W 82K	1	
R38, 39	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	2	
R40	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R41	ERJ66EYG562	M. RESISTOR CH 1/10W 5.6K	1	
R42	ERJ66EYG682	M. RESISTOR CH 1/10W 6.8K	1	
R43-45	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	3	
R46	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R48	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R49	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R50	VRE0034E471	M. RESISTOR CH 1/10W 470	1	
R51	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R52	VRE0034E471	M. RESISTOR CH 1/10W 470	1	
R53	VRE0034E823	M. RESISTOR CH 1/10W 82K	1	
R54	ERJ66EYG562	M. RESISTOR CH 1/10W 5.6K	1	
R55	ERJ66EYG682	M. RESISTOR CH 1/10W 6.8K	1	
R56-59	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	4	
R60	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R61-77	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	17	
R80, 81	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	2	
R82, 83	VRE0034E223	M. RESISTOR CH 1/10W 22K	2	
R84	ERJ66EYG474	M. RESISTOR CH 1/10W 470K	1	
R85	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R86	ERJ66EYG474	M. RESISTOR CH 1/10W 470K	1	
R87, 88	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	2	
R89, 90	ERJ66EYJ224	M. RESISTOR CH 1/10W 220K	2	
R91, 92	ERJ66EYG154	M. RESISTOR CH 1/10W 150K	2	
R93	ERJ66EYG562	M. RESISTOR CH 1/10W 5.6K	1	
R94	ERJ66EYJ224	M. RESISTOR CH 1/10W 220K	1	
R95	ERJ66EYG562	M. RESISTOR CH 1/10W 5.6K	1	
R96	ERJ66EYG273	M. RESISTOR CH 1/10W 27K	1	
R97	ERJ66EYF333	M. RESISTOR CH 1/10W 33K	1	
R98, 99	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	2	
R100, 01	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	2	
R102, 03	ERJ66EYJ224	M. RESISTOR CH 1/10W 220K	2	
R104	ERJ66EYG562	M. RESISTOR CH 1/10W 5.6K	1	
R105	ERJ66EYJ224	M. RESISTOR CH 1/10W 220K	1	
R106	ERJ66EYG562	M. RESISTOR CH 1/10W 5.6K	1	
R107	ERJ66EYG273	M. RESISTOR CH 1/10W 27K	1	
R108	ERJ66EYF333	M. RESISTOR CH 1/10W 33K	1	
R109	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R120, 21	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	2	
R122, 23	VRE0034E223	M. RESISTOR CH 1/10W 22K	2	



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Ref. No.	Part No.	Part Name & Description	Pos	Remarks
R124	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R125	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
R126	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R127	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
R128, 29	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R130, 31	VRE0034E224	M. RESISTOR CH 1/10W 220K	2	
R132, 33	ERJ6GEY0154	M. RESISTOR CH 1/10W 150K	2	
R134	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R135	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R136	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R137	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R138	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R139, 40	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R141, 42	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R143, 44	VRE0034E224	M. RESISTOR CH 1/10W 220K	2	
R145	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R146	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R147	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R148	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R149	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R160, 61	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R162, 63	VRE0034E223	M. RESISTOR CH 1/10W 22K	2	
R164	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R165	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
R166	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R167	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
R168, 69	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R170, 71	VRE0034E224	M. RESISTOR CH 1/10W 220K	2	
R172	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R173	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R174	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R175	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R176	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R177, 78	ERJ6GEY0154	M. RESISTOR CH 1/10W 150K	2	
R179, 80	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R181, 82	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R183, 84	VRE0034E224	M. RESISTOR CH 1/10W 220K	2	
R185	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R186	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R187	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R188	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R189	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R200	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R201, 02	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R203	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R204, 05	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	2	
R206	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R207	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R208	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R209	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R210	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R211	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R212, 13	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R214	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R215, 16	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	2	
R217, 18	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
R219	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R220-24	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	5	
R232	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R234	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R235-43	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	9	
R244	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R245	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R246	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R247	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R248-51	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	4	
R252	ERJ6GEY0105	M. RESISTOR CH 1/10W 1M	1	
R253	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R254	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R256	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R257	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R259, 60	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R261	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R262	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R263, 64	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	

Ref. No.	Part No.	Part Name & Description	Pos	Remarks
R265	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R266	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R267-69	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R270, 71	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R275-78	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	4	
R280	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R281, 82	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R283-85	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R286, 87	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R300	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R301	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R303, 04	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R305-13	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	9	
R314-16	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	3	
R317-19	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R320	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R321	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R322-24	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	3	
R325	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R326	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R327-29	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	3	
R330	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R331	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R332	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R333	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R334	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R336, 37	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R338, 39	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R340	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R341	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R342	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R343	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
R344	ERJ6GEY0122	M. RESISTOR CH 1/10W 1.2K	1	
R345	ERJ6GEY0394	M. RESISTOR CH 1/10W 390K	1	
R346	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R347	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R348	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R349	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R350	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R351-53	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R354	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R355	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R356	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R357	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R358	ERJ6GEY0394	M. RESISTOR CH 1/10W 390K	1	
R359	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R360	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R361	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R362, 63	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	2	
R364	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R365	ERJ6GEY0474	M. RESISTOR CH 1/10W 470K	1	
R366	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R367	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R368	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R369	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R370	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R371	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R372	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R373	ERJ6GEY0122	M. RESISTOR CH 1/10W 1.2K	1	
R374, 75	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R380	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R381	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1	
R382	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R383	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R384	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1	
R385	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R400, 01	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R402	VRE0034E333	M. RESISTOR CH 1/10W 3.3K	1	
R403	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R404, 05	ERJ12YJR68	M. RESISTOR CH 1/2W 0.68	2	
R406, 07	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	2	
R408	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R409	ERJ6GEY0154	M. RESISTOR CH 1/10W 150K	1	
R410	ERJ6GEY0272	M. RESISTOR CH 1/10W 2.7K	1	
R411	ERJ6GEYJ274	M. RESISTOR CH 1/10W 270K	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R412	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	1	
R413	ERJ6GEY8273	M. RESISTOR CH 1/10W 27K	1	
R414, 15	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	2	
R416	ERJ6GEY8122	M. RESISTOR CH 1/10W 1.2K	1	
R417	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R418	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	1	
R419	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	1	
R420	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R421	ERJ6GEYJ274	M. RESISTOR CH 1/10W 270K	1	
R422	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	1	
R423	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R424, 25	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	2	
R426	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R427	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R428, 29	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R430, 31	ERJ12YJR68	M. RESISTOR CH 1/2W 0.68	2	
R432, 33	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R436, 37	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R450	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R451	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
R452	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R453-55	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	3	
R456, 57	ERJ12YJ2R2	M. RESISTOR CH 1/2W 2.2	2	
R458	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1	
R459	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R460	ERJ6GEY8271	M. RESISTOR CH 1/10W 270	1	
R461	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R462	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
R463	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R464, 65	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	2	
R466, 67	ERJ12YJ2R2	M. RESISTOR CH 1/2W 2.2	2	
R468	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1	
R469	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R470	ERJ6GEY8271	M. RESISTOR CH 1/10W 270	1	
R471	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	1	
R510	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R511, 12	VRE0034E391	M. RESISTOR CH 1/10W 390	2	
R513	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R514-17	VRE0034E391	M. RESISTOR CH 1/10W 390	4	
R550-59	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	10	
R600-02	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	3	
R603-06	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	4	
R607-15	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	9	
R621	ERJ6GEY8153	M. RESISTOR CH 1/10W 15K	1	
R622-27	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	6	
R628	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R629, 30	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R631, 32	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	2	
R640	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R650, 51	ERJ6GEY8562	M. RESISTOR CH 1/10W 5.6K	2	
R652	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R653	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R654	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R655	ERJ6GEY8332	M. RESISTOR CH 1/10W 3.3K	1	
R656	ERDS2TJ101	C. RESISTOR 1/4W 100	1	
T8510, 11	VJR0646	TEST POINT	2	
TP1	VJR0646	TEST POINT	1	
TP2	EYF6CU	TEST POINT	1	
TP30, 31	VJR0646	TEST POINT	2	
TP32, 33	EYF6CU	TEST POINT	2	
TP34, 35	VJR0646	TEST POINT	2	
TP60	VJR0646	TEST POINT	1	
TP80-83	VJR0646	TEST POINT	4	
TP120-23	VJR0646	TEST POINT	4	
TP160-63	VJR0646	TEST POINT	4	
TP200	EYF6CU	TEST POINT	1	
TP201	VJR0646	TEST POINT	1	
TP202	EYF6CU	TEST POINT	1	
TP230-34	VJR0646	TEST POINT	5	
TP280	VJR0646	TEST POINT	1	
TP300-02	VJR0646	TEST POINT	3	
TP320, 21	VJR0646	TEST POINT	2	
TP400, 01	VJR0646	TEST POINT	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
TP450, 51	VJR0646	TEST POINT	2	
X320	VXS0645	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	CARD PULLER	1	
	VML2144	CARD PULLER	1	
	VEP86146C	P. C. BOARD W/COMPONENT	1	(RTL) FOR AJ-D650P
		F2 SYSGON		
	VEP86146D	P. C. BOARD W/COMPONENT	1	(RTL) FOR AJ-D640P
		F2 SYSGON		
G1	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G8	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G10, 11	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	2	
G12	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G13	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
G14	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
G15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G16-26	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	11	
G27	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G29	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G30	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G32-34	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
G35	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
G36, 37	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G38, 39	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G46	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G47	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G49	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
G51	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
G53	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
G55	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
G56-58	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
G59, 60	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
G65	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G66	ECA12H8682	E. CAPACITOR 6800U	1	
G67	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G68, 69	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
G70, 71	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G72	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G73	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G74	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G76	ECA12H8682	E. CAPACITOR 6800U	1	
G77, 78	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G79	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
G81	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
G83	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G86, 87	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G88-90	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G91, 92	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	2	
G93	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G500, 01	ECUM1H120JCN	C. CAPACITOR CH 50V 12P	2	
G502	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G503-06	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G508-13	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	6	
G514	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G516-19	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G520	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G523	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
G526, 27	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	2	
G532-35	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	4	
G537, 38	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G543-45	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
G547	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G548	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G549, 50	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G703-13	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
G714	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G715, 16	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	2	
G717-21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
G722, 23	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	2	
G724, 25	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
G726	EGUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
G727	EGUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
G728	ECEV0JV470Q	E. CAPACITOR CH6. 3V 47U	1	
G729	EGUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
G730	EGUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
G731	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G732	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G733, 34	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	2	
G735	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G736	EGA1GAXN330	E. CAPACITOR 16V 33U	1	
G737	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G738	EGA1GAXN330	E. CAPACITOR 16V 33U	1	
G739, 40	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G741	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
G742	EGUM1H120JCN	C. CAPACITOR CH 50V 12P	1	
G743	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G744, 45	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	2	
G746	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G747-61	EGUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	15	
G762	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G763	EGUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G764	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G765	EGUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G766	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G767	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G768	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G769	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G770	EGUM1H561JCN	C. CAPACITOR CH 50V 560P	1	
G771	EGUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
G772, 73	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G774	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
G775	EGUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G776	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G777-80	EGUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G781, 82	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G783	EGUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G784	EGUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G785	EGUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G900, 01	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
G902, 03	EGUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G904-07	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	4	
D1	MA157	DIODE	1	
D2-D5	MA715	DIODE	4	
D8	MA152WK	DIODE	1	
D9	MA3068-H	DIODE	1	
D10	MA3051-H	DIODE	1	
D11	MA3047-M	DIODE	1	
D12	MA3100-M	DIODE	1	
D13	MA3051-H	DIODE	1	
D14	MA3075-M	DIODE	1	
D15	21DQ04	DIODE	1	
D16	MA3051-H	DIODE	1	
D17	MA157	DIODE	1	
D18-22	MA152WK	DIODE	5	
D25-27	MA152WK	DIODE	3	
D28-43	MA738	DIODE	16	
D44	MA152WK	DIODE	1	
D45-48	MA738	DIODE	4	
D49, 50	SN74S1051NS	IC	2	
D51	MA3062-L	DIODE	1	
D52	MA3082M	DIODE	1	
D53	MA3075-M	DIODE	1	
D54	MA738	DIODE	1	
D500	MA152WK	DIODE	1	
D504, 05	MA715	DIODE	2	
D506	MA152WK	DIODE	1	
D507	MA715	DIODE	1	
D701-06	MA715	DIODE	6	
D709	MA715	DIODE	1	
D711-14	MA157	DIODE	4	
D715	MA152WK	DIODE	1	
D716-19	MA715	DIODE	4	
D720-22	SN74S1051NS	IC	3	
D723, 24	MA715	DIODE	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
FL701, 02	VLF1016A470	FILTER	2	
FL900-03	VLF1016A470	FILTER	4	
IC1	M37702S4AFP	IC	1	
IC2	VS12384	IC	1	FOR AJ-D650P
IC2	VS12388	IC	1	FOR AJ-D640P
IC3	74F573SJ	IC	1	
IC4	74F138SJ	IC	1	
IC5	74F573SJ	IC	1	
IC6	TL7705CPSB	IC	1	
IC7	MC74HC132AF	IC	1	
IC8	MC74HC04AF	IC	1	
IC9, 10	74AC32SJ	IC	2	
IC11, 12	74F32SJ	IC	2	
IC13	MC74HC47AF	IC	1	
IC14	74F11SJ	IC	1	
IC15	IDT71321A55	IC	1	
IC16	74F245SJ	IC	1	
IC17	DS1230Y100	IC	1	
IC19, 20	74F541SJ	IC	2	
IC23	74F245SJ	IC	1	
IC24	UPD6456T611Y	IC	1	
IC25	74F138SJ	IC	1	
IC26	MB89363BHPF	IC	1	
IC27, 28	MS4649L	IC	2	
IC29	NJM2901M	IC	1	
IC30	NJM2904M	IC	1	
IC31, 32	MC14538BF	IC	2	
IC33	74F32SJ	IC	1	
IC34	74F00SJ	IC	1	
IC35	NJM2901M	IC	1	
IC36, 37	TC7S14F	IC	2	
IC500	HD64180ZRP8	IC	1	
IC501, 02	MC74HC541AF	IC	2	
IC503	VS12385	IC	1	FOR AJ-D650P
IC503	VS12389	IC	1	FOR AJ-D640P
IC504	K6256CL67L	IC	1	
IC505	IDT71321A55	IC	1	
IC506	MC74HC138AF	IC	1	
IC507	74F32SJ	IC	1	
IC508	MC74HC00AF	IC	1	
IC509	T74HC191AF	IC	1	
IC510	Z84C4310FEC	IC	1	
IC514	MC34051M	IC	1	
IC515	MC1488M	IC	1	
IC516	MC1489AM	IC	1	
IC517	MC14024BF	IC	1	
IC523	MC74HC04AF	IC	1	
IC524	MC14050BF	IC	1	
IC525	SN74LS38NS	IC	1	
IC527	MB89363BPF	IC	1	
IC528, 29	MC14021BF	IC	2	
IC530, 31	T74HC191AF	IC	2	
IC532	MC74HC574AF	IC	1	
IC701	M37702S4AFP	IC	1	
IC702	VS12387	IC	1	
IC703	K6256CL67L	IC	1	
IC704	74F573SJ	IC	1	
IC705, 06	74F138SJ	IC	2	
IC707, 08	74F32SJ	IC	2	
IC709	74F00SJ	IC	1	
IC710	MN51040VP1	IC	1	
IC711	MC74HC574AF	IC	1	
IC712	74AC32SJ	IC	1	
IC713	74F32SJ	IC	1	
IC714, 15	74F541SJ	IC	2	
IC716	74F245SJ	IC	1	
IC717	74F541SJ	IC	1	
IC718	MC14053BF	IC	1	
IC719	NJM4560MD	IC	1	
IC720	NJM2068MD	IC	1	
IC721	UPC319G2	IC	1	
IC722	UPC4741G2	IC	1	
IC723	NJM78L09UA	IC	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IG724	NJM79L09UA	IC	1	
IG725, 26	NJM084M	IC	2	
IS2	VJS2336A032	CONNECTOR (FEMALE)	1	
IS17	VJS3096628	CONNECTOR (FEMALE)	1	
IS503	VJS2336A032	CONNECTOR (FEMALE)	1	
IS702	VJS2336A032	CONNECTOR (FEMALE)	1	
L1	VLQ0163J270	COIL 27UH	1	
L2	VLQ0319K470	COIL 47UH	1	
L500-03	VLQ0576	COIL	4	
L701	VLQ0163J470	COIL 47UH	1	
L800-03	VLP0133	COIL	4	
LED1-D4	LN1251CAL	DIODE	4	
P1, P2	VJP3454B096	CONNECTOR (MALE)	2	
Q3	2SB710A-R	TRANSISTOR	1	
Q4	2SB936AQPDSX	TRANSISTOR	1	
Q5, Q6	2SD601A-R	TRANSISTOR	2	
Q7, Q8	2SB1073-R	TRANSISTOR	2	
Q9	2SD601A-R	TRANSISTOR	1	
Q10	2SB709A-R	TRANSISTOR	1	
Q11, 12	2SD1119-R	TRANSISTOR	2	
Q13	2SB709A-R	TRANSISTOR	1	
Q14	2SD601A-R	TRANSISTOR	1	
Q15, 16	2SB1073-R	TRANSISTOR	2	
Q17	2SD601A-R	TRANSISTOR	1	
Q18	2SB709A-R	TRANSISTOR	1	
Q19, 20	2SD1119-R	TRANSISTOR	2	
Q21	2SB709A-R	TRANSISTOR	1	
Q22	2SD601A-R	TRANSISTOR	1	
Q23, 24	2SB1175-QY	TRANSISTOR	2	
Q25	2SD601A-R	TRANSISTOR	1	
Q26	2SB709A-R	TRANSISTOR	1	
Q27, 28	2SD1747-QY	TRANSISTOR	2	
Q29	2SB709A-R	TRANSISTOR	1	
Q30	2SD601A-R	TRANSISTOR	1	
Q31, 32	2SB1073-R	TRANSISTOR	2	
Q33	2SD601A-R	TRANSISTOR	1	
Q34	2SB709A-R	TRANSISTOR	1	
Q35, 36	2SD1119-R	TRANSISTOR	2	
Q37	2SB709A-R	TRANSISTOR	1	
Q38	2SD601A-R	TRANSISTOR	1	
Q39	2SB1175-QY	TRANSISTOR	1	
Q701-03	2SD601A-R	TRANSISTOR	3	
Q704, 05	2SB709A-R	TRANSISTOR	2	
QR3-10	UN2213	TRANSISTOR-RESISTOR	8	
QR11-16	UN2214	TRANSISTOR-RESISTOR	6	
QR17	UN2213	TRANSISTOR-RESISTOR	1	
QR18-26	UN2214	TRANSISTOR-RESISTOR	9	
QR27, 28	UN2113	TRANSISTOR-RESISTOR	2	
QR29, 30	UN2214	TRANSISTOR-RESISTOR	2	
QR31, 32	UN2113	TRANSISTOR-RESISTOR	2	
QR33, 34	UN2214	TRANSISTOR-RESISTOR	2	
QR35, 36	UN2113	TRANSISTOR-RESISTOR	2	
QR37, 38	UN2213	TRANSISTOR-RESISTOR	2	
QR39, 40	UN2113	TRANSISTOR-RESISTOR	2	
QR41	UN2213	TRANSISTOR-RESISTOR	1	
QR42	UN2113	TRANSISTOR-RESISTOR	1	
QR43	UN2213	TRANSISTOR-RESISTOR	1	
QR701-05	UN2214	TRANSISTOR-RESISTOR	5	
R1-R5	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	5	
R6-10	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	5	
R11, 12	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	2	
R13, 14	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R16	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R17	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	1	
R18, 19	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R20	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R21, 22	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R23, 24	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R25, 26	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R27, 28	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R29	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R33-35	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3	
R38, 39	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R43	ERJ6GEYG271	M. RESISTOR CH 1/10W 270	1	
R44	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R45	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R46	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R47	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R48	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R49	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R54, 55	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R56	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R57	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R58-61	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	4	
R62	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R63-70	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	8	
R71, 72	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R73, 74	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R75	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R76, 77	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R82	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R83	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R84-88	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	5	
R90-95	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	6	
R96	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R97	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R100	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R101, 02	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R103, 04	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R105	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R106	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R108	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R109, 10	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R111, 12	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R113	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R114	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R116	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R117, 18	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R119, 20	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R121	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R122	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R124	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R125, 26	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R127, 28	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R129-37	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	9	
R138, 39	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R141, 42	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R144	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R145-47	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3	
R148	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R150	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R151	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R152	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R153	ERJ6GEYG271	M. RESISTOR CH 1/10W 270	1	
R154	ERX1SJ1R0	M. RESISTOR 1W 1.0	1	
R155	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R156	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R157	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R158	ERJ6GEYG271	M. RESISTOR CH 1/10W 270	1	
R159	ERG1SJ220	M. RESISTOR 1W 22	1	
R160	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R161	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R162, 63	ERJ8GCYG151	M. RESISTOR CH 1/8W 150	2	
R164, 65	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	2	
R166	ERJ8GCYG152	M. RESISTOR CH 1/8W 1.5K	1	
R167-69	ERJ8GCYJ681	M. RESISTOR CH 1/8W 680	3	
R170	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R171	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R172, 73	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	2	
R174-81	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	8	
R182	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R184	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R185	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R186	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R187-90	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	4	
R191	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R192	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R193, 94	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R195	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R196, 97	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R198	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R199, 00	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R201	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R202	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R203, 04	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R205	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R206	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R207, 08	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R209	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R210, 11	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R212	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R213, 14	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R215	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R216, 17	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R218	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R219, 20	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R221	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R222	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R223, 24	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R225	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R226	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R227, 28	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R229	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R230, 31	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R232	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R233, 34	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R235	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R236, 37	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R238	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R239, 40	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R241	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R242	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R243, 44	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R245	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R246	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R247, 48	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R249	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R250, 51	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R252	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R253, 54	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R255	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R256, 57	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R258	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R259, 60	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R261	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	1	
R262	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R263	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R266-69	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	4	
R271	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R273	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R275	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R277	ERJ6GEYG821	M. RESISTOR CH 1/10W 820	1	
R281	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R284, 85	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R288	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R290	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R291	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R292, 93	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R294	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R295	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R296	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R297	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R298	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R299	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R304-15	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	12	
R316, 17	ERG1SJ100	M. RESISTOR 1W 10	2	
R318	ERX1SJ6R2	M. RESISTOR 1W 6.2	1	
R319	ERG1SJ100	M. RESISTOR 1W 10	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R320	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R321-28	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	8	
R329, 30	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R332	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R333	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R334	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R335	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R336	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1	
R337, 38	ERJ8GCGYJ391	M. RESISTOR CH 1/8W 390	2	
R341	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R342	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R345	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R346	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R347	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R348	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R349-62	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	14	
R363, 64	ERJ6GEYG271	M. RESISTOR CH 1/10W 270	2	
R365	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R366	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R500	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R501	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R502, 03	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R504-11	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	8	
R512	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R513, 14	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R517	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R518, 19	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R520	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R529-31	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3	
R532, 33	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R534	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R542	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R545	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R546	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	1	
R548, 49	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R550, 51	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R554-58	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	5	
R580	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R585	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R598	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R599	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R606, 07	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R608	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R610-13	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	4	
R618-20	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	3	
R621-28	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	8	
R630	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R633	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R635	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R637	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R640	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R641	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R701	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R702	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R705-10	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	6	
R711-16	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	6	
R717	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R718	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R719, 20	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R721, 22	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R723-26	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	4	
R727	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R728-31	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	4	
R732-34	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	3	
R735	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R736	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1	
R737	ERJ6GEYG105	M. RESISTOR CH 1/10W 1M	1	
R738	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R739, 40	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R741, 42	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	2	
R743, 44	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	2	
R745, 46	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R747	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R748	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R749, 50	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R751	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R752, 53	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	2	
R754	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R755	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R756-59	ERJ6GEY6104	M. RESISTOR CH 1/10W 100K	4	
R760	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R762	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R764, 65	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R766	ERJ6GEY6105	M. RESISTOR CH 1/10W 1M	1	
R767-69	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	3	
R770	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R771	ERJ6GEY6101	M. RESISTOR CH 1/10W 100	1	
R772	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R773	ERJ6GEY6562	M. RESISTOR CH 1/10W 5.6K	1	
R774	ERJ6GEY6220	M. RESISTOR CH 1/10W 22	1	
R775, 76	ERJ6GEY6332	M. RESISTOR CH 1/10W 3.3K	2	
R777	ERJ6GEY6222	M. RESISTOR CH 1/10W 2.2K	1	
R778-81	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	4	
R782	VRE0034E470	M. RESISTOR CH 1/10W 47	1	
R783	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R784	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R785	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R786	VRE0034E820	M. RESISTOR CH 1/10W 82	1	
R787	VRE0034E470	M. RESISTOR CH 1/10W 47	1	
R788	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R789	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R790	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R791	VRE0034E683	M. RESISTOR CH 1/10W 68K	1	
R792	ERJ6GEY6394	M. RESISTOR CH 1/10W 390K	1	
R793	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R794, 95	ERJ6GEY6223	M. RESISTOR CH 1/10W 22K	2	
R796	ERJ6GEY6104	M. RESISTOR CH 1/10W 100K	1	
R797, 98	VRE0034E102	M. RESISTOR CH 1/10W 1K	2	
R799	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R800, 01	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R802	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R803, 04	VRE0034E102	M. RESISTOR CH 1/10W 1K	2	
R805-08	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	4	
R809	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R810	ERJ6GEY6104	M. RESISTOR CH 1/10W 100K	1	
R811, 12	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	2	
R813	ERJ6GEY6824	M. RESISTOR CH 1/10W 820K	1	
R814	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R815	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R816-39	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	24	
R840-47	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	8	
R848-56	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	9	
R857	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R858, 59	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R860-62	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3	
R863, 64	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R865	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R866	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R867	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R868	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R869	ERJ6GEY6223	M. RESISTOR CH 1/10W 22K	1	
R870	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R871, 72	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	2	
R873	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R874, 75	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	2	
R876	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R877, 78	ERJ6GEY6394	M. RESISTOR CH 1/10W 390K	2	
R879, 80	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	2	
R881	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R882, 83	ERJ6GEY6394	M. RESISTOR CH 1/10W 390K	2	
R884	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R885	ERJ6GEY6223	M. RESISTOR CH 1/10W 22K	1	
R886	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R887, 88	ERJ6GEY6394	M. RESISTOR CH 1/10W 390K	2	
R890	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	1	
R891	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R892	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R893	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R894	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R895	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R900-03	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	4	
SW501	VSS0367-08B	SWITCH	1	
T61	EYF6CU	TEST POINT	1	
T6701	EYF6CU	TEST POINT	1	
TP8	EYF6CU	TEST POINT	1	
VC1	VCV0049	TRIMMER	1	
X1	VSX0641	CRYSTAL OSCILLATOR	1	
X500	VSX0641	CRYSTAL OSCILLATOR	1	
X701	VSX0465	CRYSTAL OSCILLATOR	1	
X702	VSX0498	CRYSTAL OSCILLATOR	1	
X703	VSX0614	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	CARD PULLER	1	
	VML2144	CARD PULLER	1	
	VEP83352A	P. C. BOARD W/COMPONENT	1 (RTL)	
		F4 V OUT		
C100	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
C101	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C102	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
C103	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C150-59	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	10	
C200-03	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4	
C250, 51	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C252	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
C253-57	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5	
C258	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C300-02	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
C303	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
C304	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C305	ECEV0JV1010	E. CAPACITOR CH 6.3V 100U	1	
C306, 07	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C308	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
C309, 10	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C311	ECEV1HV2R20	E. CAPACITOR CH 50V 2.2U	1	
C312	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C313	ECEV1HV2R20	E. CAPACITOR CH 50V 2.2U	1	
C314-16	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
C317	ECEV1HV2R20	E. CAPACITOR CH 50V 2.2U	1	
C318-23	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	6	
C324	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
C325, 26	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C327	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C328	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1	
C328, 30	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C331	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
C332	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C333	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1	
C334, 35	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C336, 37	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	2	
C338	ECUX1H100DCV	C. CAPACITOR CH 50V 10P	1	
C339	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1	
C340	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C342	ECUX1H100DCV	C. CAPACITOR CH 50V 10P	1	
C343	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1	
C344	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C346	ECUX1H020CCV	C. CAPACITOR CH 50V 2P	1	
C347	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C348, 49	ECEV1CV1000	E. CAPACITOR CH 16V 10U	2	
C350	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1	
C351	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C352-66	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	15	
C400	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C401	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C402-04	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
C405	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1	
C406	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C407	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	

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Ref. No.	Part No.	Part Name & Description	Pos	Remarks
G408	EGUX1H120JGV	C. CAPACITOR CH 50V 12P	1	
G409, 10	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G411	EGUX1H330JGV	C. CAPACITOR CH 50V 33P	1	
G412, 13	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G414	EGUX1H330JGV	C. CAPACITOR CH 50V 33P	1	
G415	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G500	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G501	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G502	EGUX1H221JGV	G. CAPACITOR CH 50V 220P	1	
G503	EGUX1H821JGV	G. CAPACITOR CH 50V 47P	1	
G504	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G505	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G506, 07	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G508	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G509	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G510, 11	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
G512	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G513-15	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
G516	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G517	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G518	EGUX1H100DGV	G. CAPACITOR CH 50V 10P	1	
G519-21	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
G522	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G523-25	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
G526	EGUX1H271JGV	G. CAPACITOR CH 50V 270P	1	
G527	EGUX1H151JGV	G. CAPACITOR CH 50V 150P	1	
G528	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G529	EGUX1H820JGV	G. CAPACITOR CH 50V 82P	1	
G530-33	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
G534	EGUX1H820JGV	G. CAPACITOR CH 50V 82P	1	
G535-38	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
G539	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G541	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G542	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G545	EGUX1H330JGV	G. CAPACITOR CH 50V 33P	1	
G546	EGUX1H271JGV	G. CAPACITOR CH 50V 270P	1	
G547	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G548	EGUX1H680JGV	G. CAPACITOR CH 50V 68P	1	
G549	EGUX1H070DGV	G. CAPACITOR CH 50V 7P	1	
G550	EGUX1H121JGV	G. CAPACITOR CH 50V 120P	1	
G551	EGUM10473KBV	G. CAPACITOR CH 16V 0.047U	1	
G552	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G553	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G554	EGUM10473KBV	G. CAPACITOR CH 16V 0.047U	1	
G555	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G556	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G557	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G558	EGUM10473KBV	G. CAPACITOR CH 16V 0.047U	1	
G559, 60	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G561, 62	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	2	
G566	EGUX1H100DGV	G. CAPACITOR CH 50V 10P	1	
G568, 69	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G570	ECEV0JV470Q	E. CAPACITOR CH 6V 47U	1	
G571	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G572	ECEV0JV470Q	E. CAPACITOR CH 6V 47U	1	
G573-76	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
G600-06	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	7	
G700-03	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
G800, 01	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	2	
G802	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G803, 04	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G805	EGUX1H020GCV	G. CAPACITOR CH 50V 2P	1	
G806	EGUX1H121JGV	G. CAPACITOR CH 50V 120P	1	
G807	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G808, 09	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G810	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G811-14	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
G815	EGUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
G816-18	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
G819	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G820	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G821	EGUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
G822	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G823-25	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
G826	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	

Ref. No.	Part No.	Part Name & Description	Pos	Remarks
G827	EGUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
G828	EGUX1H020GCV	G. CAPACITOR CH 50V 2P	1	
G829-32	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
G833	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G834	EGUX1H150JGV	G. CAPACITOR CH 50V 15P	1	
G850	EGUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
G851	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G852-55	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
G856	EGUX1H390JGV	G. CAPACITOR CH 50V 39P	1	
G857	EGUX1H070DGV	G. CAPACITOR CH 50V 7P	1	
G900	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G901	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G902	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G903	EGUX1H181JGV	G. CAPACITOR CH 50V 180P	1	
G904, 05	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	2	
G906	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G907	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G908	EGUX1H180JGV	G. CAPACITOR CH 50V 18P	1	
G909	EGUX1H680JGV	G. CAPACITOR CH 50V 68P	1	
G910, 11	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G912	ECEV1HNM10Q	E. CAPACITOR CH 50V 1U	1	
G913	EGUX1H330JGV	G. CAPACITOR CH 50V 33P	1	
G914-16	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
G917	EGUX1H101JGV	G. CAPACITOR CH 50V 100P	1	
G918	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
G919	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G920	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G921	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G922	EGUX1H101JGV	G. CAPACITOR CH 50V 100P	1	
G923	EGUX1H470JGV	G. CAPACITOR CH 50V 47P	1	
G924	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G925	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G926	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G927	EGUX1H390JGV	G. CAPACITOR CH 50V 39P	1	
G928	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G929	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G930	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G931	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G932	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G933	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G934, 35	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G936	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G937	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G938	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G939	ECEV1HNM10Q	E. CAPACITOR CH 50V 1U	1	
G940	EGUX1H102JV	G. CAPACITOR CH 50V 1000P	1	
G941, 42	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G943, 44	EGUX1H150JGV	G. CAPACITOR CH 50V 15P	2	
G945	ECEV1HNM10Q	E. CAPACITOR CH 50V 1U	1	
G946	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G947	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G948, 49	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	2	
G1000	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G1001	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G1002	EGUX1H820JGV	G. CAPACITOR CH 50V 82P	1	
G1003	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1004	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G1005	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1006-12	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	7	
G1013	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1014	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G1015-18	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	
G1019	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1	
G1020	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G1021	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G1023	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G1024	EGUX1H102JV	G. CAPACITOR CH 50V 1000P	1	
G1025-27	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	3	
G1028, 29	EGUX1H470JGV	G. CAPACITOR CH 50V 47P	2	
G1030	EGUX1H680JGV	G. CAPACITOR CH 50V 68P	1	
G1031	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G1035	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G1050	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	1	
G1052	EGUX1H103KBV	G. CAPACITOR CH 50V 0.01U	1	
G1053-56	EGUX1E104ZV	G. CAPACITOR CH 25V 0.1U	4	



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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
G1057	EGUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
G1058	ECEV1HN010Q	E. CAPACITOR CH 50V 1U	1	
G1059	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1060	EGUX1H102JV	C. CAPACITOR CH 50V 1000P	1	
G1062, 53	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
G1100, 01	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
G1103	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1104	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1105	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1106	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1107, 08	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
G1109	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	
G1110	EGUX1H102JV	C. CAPACITOR CH 50V 1000P	1	
G1111-13	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
G1114	EGUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
G1115-20	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	6	
G1121	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1122	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1123	EGUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
G1124-26	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
G1127	EGUX1H681JV	C. CAPACITOR CH 50V 680P	1	
G1128	EGUX1H471JCV	C. CAPACITOR CH 50V 470P	1	
G1129-31	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
G1150	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1151	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1	
G1152	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1153	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1154	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1155	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1156	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1157, 58	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	2	
G1159, 60	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
G1161	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1	
G1162	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1163	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1	
G1164	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1165	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1166, 67	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
G1168	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1169	ECEV1EV100Q	E. CAPACITOR CH 25V 10U	1	
G1170-75	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	6	
G1176	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1177	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1178	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1179	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1180	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1181	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1182	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1183	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1184	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1185	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
G1186	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1187-95	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	9	
G1196-03	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	8	
G1204-11	EGUX1E104ZV	C. CAPACITOR CH 25V 0.1U	8	
D400	MA152K	DIODE	1	
D500	MA152K	DIODE	1	
D501, 02	MA335-R	DIODE	2	
D503	MA152K	DIODE	1	
D900	MA142WK	DIODE	1	
D901	MA152K	DIODE	1	
D1000	MA142K	DIODE	1	
D1001	MA335-R	DIODE	1	
D1050	MA152K	DIODE	1	
D1100	MA142K	DIODE	1	
FL301	VLF1294	FILTER	1	
FL303	VLF1295	FILTER	1	
FL305	VLF1295	FILTER	1	
FL1150-53	VLF1016A223	FILTER	4	
IC150, 51	SN74S1051NS	IC	2	
IC152	74ALS245ASJ	IC	1	
IC153, 54	74ALS541SJ	IC	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC156	VS12391	IC	1	
IC157	SN74S1051NS	IC	1	
IC158	MC74HC574AF	IC	1	
IC159	UPD710556B	IC	1	
IC160	MC74HC574AF	IC	1	
IC161	SN74S1051NS	IC	1	
IC163	MC74HC74AF	IC	1	
IC200, 01	MC74HC574AF	IC	2	
IC202	MC74HC541AF	IC	1	
IC203	TC7SH08FU	IC	1	
IC250	XG62AP3002P	IC	1	
IC251	UPD658408024	IC	1	
IC300	NJM082BM	IC	1	
IC301	NJM084M	IC	1	
IC303	MC74HC244AF	IC	1	
IC306-08	MB40778PF	IC	3	
IC309-11	EL4089CS	IC	3	
IC312, 13	MC14053BF	IC	2	
IC500	NJM082BM	IC	1	
IC502	MC74HC4053F	IC	1	
IC503	M51272FP	IC	1	
IC600	74ALS541SJ	IC	1	
IC601-03	MC10H124M	IC	3	
IC700	VS12390	IC	1	
IC800	EL4089CS	IC	1	
IC801	NJM082BM	IC	1	
IC802	NJM2534V	IC	1	
IC804	NJM2534V	IC	1	
IC805	AD828AR	IC	1	
IC850	NJM2534V	IC	1	
IC900	AN91A12S	IC	1	
IC902	NE521D	IC	1	
IC904	MC74HC04AF	IC	1	
IC908, 09	MM74HC221AM	IC	2	
IC910	MC74HC125AF	IC	1	
IC913	NJM082BM	IC	1	
IC915	SN74LS221NS	IC	1	
IC916	NJM082BM	IC	1	
IC923-25	TC7SH00FU	IC	3	
IC1000	NE521D	IC	1	
IC1001	DAC10GS	IC	1	
IC1002	MC14053BF	IC	1	
IC1003	NJM082BM	IC	1	
IC1004	TC7SH08FU	IC	1	
IC1005	NJM084M	IC	1	
IC1015	TC7SH00FU	IC	1	
IC1051	NJM082BM	IC	1	
IC1053	SN74AS74NS	IC	1	
IC1055, 56	SN74AS244NS	IC	2	
IC1057	SN74AS74NS	IC	1	
IC1058	SN74AS244NS	IC	1	
IC1100	NJM084M	IC	1	
IC1102	DAC10GS	IC	1	
IC1103	SN74LS221NS	IC	1	
IC1106	UPD65650J203	IC	1	
IC1107, 08	MC74HC04AF	IC	2	
IC1113	MC74HC244AF	IC	1	
IC1114	MC74HC00AF	IC	1	
IC1115, 16	SN74LS221NS	IC	2	
IC1150	NJM78L09UA	IC	1	
IC1151	NJM78L05UA	IC	1	
IC1152	NJM79L05UA	IC	1	
IC1153	AN78N09	IC	1	
IC1154	AN78N05	IC	1	
IC1155	AN79N09	IC	1	
IC1156	NJM78L09UA	IC	1	
IC1157	NJM78L05UA	IC	1	
IC1158	NJM79L05UA	IC	1	
IC1159	NJM79L09UA	IC	1	
IC1160	AN78N09	IC	1	
IC1161	NJM78L05UA	IC	1	
IC1162	NJM79L05UA	IC	1	
IC1163	AN79N09	IC	1	
L100-06	VLP0133	COIL	7	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L302, 03	VLQ0163J6R8	COIL 6.8UH	2	
L304	VLQ0163J120	COIL 12UH	1	
L305, 06	VLQ0163J560	COIL 56UH	2	
L307	VLQ0163J220	COIL 22UH	1	
L400	VLQ0163J470	COIL 47UH	1	
L401, 02	VLQ0163J560	COIL 56UH	2	
L500-02	VLQ0163J220	COIL 22UH	3	
L503	VLQ0163J270	COIL 100UH	1	
L504	VLQ0163J820	COIL 33UH	1	
L505, 06	VLQ0163J470	COIL 47UH	2	
L507	VLQ0163J270	COIL 27UH	1	
L508	VLQ0163J6R8	COIL 6.8UH	1	
L509	VLQ0163J470	COIL 47UH	1	
L510	VLQ0163J5R6	COIL 5.6UH	1	
L800	VLQ0163J120	COIL 12UH	1	
L801, 02	VLQ0163J220	COIL 22UH	2	
L850	VLQ0163J180	COIL 18UH	1	
L900	VLQ0163J101	COIL 100UH	1	
L901	VLQ0163J221	COIL 220UH	1	
L902	VLQ0163J680	COIL 68UH	1	
L903-08	VLQ0163J470	COIL 47UH	6	
L1000	VLQ0163J470	COIL 47UH	1	
L1001	VLQ0163J221	COIL 220UH	1	
L1002, 03	VLQ0163J220	COIL 22UH	2	
L1004	VLQ0163J470	COIL 47UH	1	
L1100, 01	VLQ0163J220	COIL 22UH	2	
P1, P2	VJP3454B096	CONNECTOR (MALE)	2	
P3	VJP1233T	CONNECTOR (MALE)	6P	
P418	VRE0034E121	M. RESISTOR CH 1/10W 120	1	
P419	VRE0034E681	M. RESISTOR CH 1/10W 680	1	
P420	VRE0034E151	M. RESISTOR CH 1/10W 150	1	
Q200	UN2212	TRANSISTOR-RESISTOR	1	
Q300-05	2SD601A-R	TRANSISTOR	6	
Q306-14	2SB709A-R	TRANSISTOR	9	
Q315-17	2SD601A-R	TRANSISTOR	3	
Q318, 19	2SB709A-R	TRANSISTOR	2	
Q400	2SG2404-C	TRANSISTOR CHIP	1 (C, D)	
Q401-03	2SB709A-R	TRANSISTOR	3	
Q404, 06	2SD601A-R	TRANSISTOR	2	
Q406, 07	2SB709A-R	TRANSISTOR	2	
Q408-10	2SD601A-R	TRANSISTOR	3	
Q500	2SB709A-R	TRANSISTOR	1	
Q501, 02	2SG2295-B	TRANSISTOR	2	
Q503, 04	2SB709A-R	TRANSISTOR	2	
Q505	2SG2295-B	TRANSISTOR	1	
Q506, 07	2SB709A-R	TRANSISTOR	2	
Q508	2SD601A-R	TRANSISTOR	1	
Q509	XN6501	TRANSISTOR-RESISTOR	1	
Q510	2SD601A-R	TRANSISTOR	1	
Q513	2SD601A-R	TRANSISTOR	1	
Q514	2SB709A-R	TRANSISTOR	1	
Q800, 01	2SA1532-B	TRANSISTOR	2	
Q802, 03	2SD601A-R	TRANSISTOR	2	
Q804-07	2SB709A-R	TRANSISTOR	4	
Q850	2SA1532-B	TRANSISTOR	1	
Q851	2SB709A-R	TRANSISTOR	1	
Q1000	2SB709A-R	TRANSISTOR	1	
Q1001, 02	2SK608-R		2	
R151, 52	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R153, 54	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R155-65	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	11	
R166-69	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	4	
R170-80	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	11	
R181, 82	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R183	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R200-21	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	22	
R222	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R223, 24	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R225-32	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	8	
R251	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R252	ERJ3GEYJ680	M. RESISTOR CH 1/16W 68	1	
R253	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R254	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R255	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R258	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R260	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R262	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R264	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R266-70	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	5	
R273, 74	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R302	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R303	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R304	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R305	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R306	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R307	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R308, 09	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
R310, 11	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R312	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R313	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R314	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R315, 16	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2	
R317	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R318	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R320	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R321	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R322	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R323, 24	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2	
R326	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R328	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R329-32	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	4	
R334	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R335	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R336	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R337	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R338	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R339	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R340	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R341	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R342	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R343	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R344	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R345	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R347, 48	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2	
R349	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R350	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R351	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R352	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R353	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R354	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R355	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R356	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R357	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R358	ERJ3GEYJ561	M. RESISTOR CH 1/16W 560	1	
R359	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1	
R361	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R362	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R363	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R364	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R366	ERJ3GEYJ121	M. RESISTOR CH 1/16W 120	1	
R367	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R368	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R369	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R370	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R372	ERJ3GEYJ121	M. RESISTOR CH 1/16W 120	1	
R374	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R375	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R378	ERJ3GEYJ561	M. RESISTOR CH 1/16W 560	1	
R379	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R380	ERJ3GEYJ561	M. RESISTOR CH 1/16W 560	1	
R382	ERJ3GEYJ561	M. RESISTOR CH 1/16W 560	1	
R383	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R384	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R385	VRE0034E752	M. RESISTOR CH 1/10W 7.5K	1	
R386-88	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	3	
R391, 92	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	
R400	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	

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Ref. No.	Part No.	Part Name & Description	Pos	Remarks
R401	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	1	
R402	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R403	VRE0034E151	M. RESISTOR CH 1/10W 150	1	
R404	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R405	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	1	
R406, 07	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2	
R408	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R409	VRE0034E752	M. RESISTOR CH 1/10W 7.5K	1	
R410	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R411	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R412	ERJ3GEY0332	M. RESISTOR CH 1/16W 3.3K	1	
R413	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R414	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R415, 16	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2	
R417	VRE0034E221	M. RESISTOR CH 1/10W 220	1	
R421	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R422	VRE0034E121	M. RESISTOR CH 1/10W 120	1	
R423, 24	VRE0034E271	M. RESISTOR CH 1/10W 270	2	
R425	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R426	VRE0034E121	M. RESISTOR CH 1/10W 120	1	
R427	VRE0034E221	M. RESISTOR CH 1/10W 220	1	
R428	VRE0034E181	M. RESISTOR CH 1/10W 180	1	
R429	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R430	ERJ3GEY0471	M. RESISTOR CH 1/16W 470	1	
R431	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R432	ERJ3GEY0471	M. RESISTOR CH 1/16W 470	1	
R433	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R434, 35	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R500	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R502, 03	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	2	
R504	ERJ3GEY0471	M. RESISTOR CH 1/16W 470	1	
R505	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R507	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R509	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1	
R510	ERJ3GEY0332	M. RESISTOR CH 1/16W 3.3K	1	
R511	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R512	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R513	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R514	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	1	
R515	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R516	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R517	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R518	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R519, 20	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R521	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R522	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R523	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1	
R524	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R525	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R526	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1	
R527	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R528	ERJ3GEY0332	M. RESISTOR CH 1/16W 3.3K	1	
R529	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R530	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R531	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	1	
R532-34	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	3	
R535, 36	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	2	
R537, 38	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	2	
R539	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R540, 41	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R542	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R543	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R544, 45	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	
R546	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R547, 48	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	2	
R549	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R550	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R552	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R553	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R559	VRE0034E301	M. RESISTOR CH 1/10W 300	1	
R560	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R561	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R562	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R565	ERJ3GEY0332	M. RESISTOR CH 1/16W 3.3K	1	
R571	VRE0034E301	M. RESISTOR CH 1/10W 300	1	

Ref. No.	Part No.	Part Name & Description	Pos	Remarks
R572	ERJ3GEY0332	M. RESISTOR CH 1/16W 3.3K	1	
R573	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R574	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R577	ERJ3GEY0332	M. RESISTOR CH 1/16W 3.3K	1	
R579	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R580	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R581	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R600	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R601-10	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	10	
R611-34	ERJ3GEYJ561	M. RESISTOR CH 1/16W 560	24	
R635-58	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	24	
R700, 01	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R800	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R801	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R802	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	1	
R803	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R804	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R806	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R810	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R812	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R813, 14	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	2	
R815	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R816	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R817	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	1	
R818, 19	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	2	
R820	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R821	ERJ3GEY0472	M. RESISTOR CH 1/16W 4.7K	1	
R822	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R823	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R824	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R825	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R826	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R828	VRE006610102	M. RESISTOR CH 1/10W 1K	1	
R829, 30	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	2	
R831-33	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	3	
R834-36	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	3	
R837	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R838-40	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	3	
R841	ERJ3GEY0332	M. RESISTOR CH 1/16W 3.3K	1	
R842	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1	
R843	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R844, 45	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	2	
R846	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R847	ERJ3GEY0152	M. RESISTOR CH 1/16W 1.5K	1	
R848	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R849	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R850	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R851	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R852	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R853	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R854	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R855, 56	ERJ3GEYJ681	M. RESISTOR CH 1/16W 560	2	
R857	ERJ3GEYJ471	M. RESISTOR CH 1/16W 560	1	
R858-61	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	4	
R862	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R863	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R864	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R865	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R866	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R870, 71	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R900	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1	
R901	ERJ3GEYJ684	M. RESISTOR CH 1/16W 680K	1	
R902	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R903	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1	
R904, 05	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	
R906, 07	ERJ3GEY0822	M. RESISTOR CH 1/16W 8.2K	2	
R908-10	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	3	
R911	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1	
R912	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R913	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R914	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R915	ERJ3GEY0822	M. RESISTOR CH 1/16W 8.2K	1	
R916	ERJ3GEY0682	M. RESISTOR CH 1/16W 6.8K	1	
R917	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R918	ERJ3GEY0471	M. RESISTOR CH 1/16W 470	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R919	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1	
R920	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R921, 22	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R923	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R924	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R925, 26	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R927	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R928	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R929	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R930	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R931	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R932	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R933	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R934, 35	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R1000	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R1001	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R1002	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1003	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1004	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R1006, 07	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
R1008	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R1009	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R1010	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R1011	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1013	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R1014	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R1015	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1016	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1018	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R1019	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R1020	ERJ3GEYJ153	M. RESISTOR CH 1/16W 15K	1	
R1021	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1022, 23	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R1024	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R1025	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1026	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R1027	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	1	
R1028	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1030	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1036	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1037	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R1050	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R1051	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1052	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R1053	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1054	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R1055	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R1056	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1057, 58	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R1060	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1061	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1100	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R1101	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1103	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1104	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1105	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1	
R1106	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R1107	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R1108	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R1109	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1	
R1110	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1112	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R1113	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R1115-17	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3	
R1119	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R1121	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R1122	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R1123	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R1124	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R1125	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R1126	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R1127	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R1128	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R1129, 30	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2	
R1135	ERD52TJ124	C. RESISTOR 1/4W 120K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
SW400	VSS0372	SWITCH	1	
T6100	VJR0646	TEST POINT	1	
T6150	VJR0646	TEST POINT	1	
T6250	VJR0646	TEST POINT	1	
T6503	VJR0646	TEST POINT	1	
T6704	VJR0646	TEST POINT	1	
T6802	VJR0646	TEST POINT	1	
T6901, 02	VJR0646	TEST POINT	2	
T61106	VJR0646	TEST POINT	1	
TH500	ERTD2FHL102S	THERMISTOR	1K	1
TP300	VJR0646	TEST POINT	1	
TP500, 01	VJR0646	TEST POINT	2	
TP700-03	VJR0646	TEST POINT	4	
TP800, 01	VJR0646	TEST POINT	2	
TP900	VJR0646	TEST POINT	1	
TP903-05	VJR0646	TEST POINT	3	
TP1000, 01	VJR0646	TEST POINT	2	
TP1100-05	VJR0646	TEST POINT	6	
VC500	EGV12W20X53	TRIMMER	1	
VG1000	EGV12W20X53	TRIMMER	1	
VR300	EVMEGSA00B24	V. RESISTOR	20K	1
VR301	EVMEGSA00B12	V. RESISTOR	100	1
VR302-04	EVMEGSA00B13	V. RESISTOR	1K	3
VR305, 06	EVMEGSA00B12	V. RESISTOR	100	2
VR307	EVMEGSA00B13	V. RESISTOR	1K	1
VR400	EVMEGSA00B13	V. RESISTOR	1K	1
VR500-02	EVMEGSA00B53	V. RESISTOR	5K	3
VR503, 04	EVMEGSA00B13	V. RESISTOR	1K	2
VR505, 06	EVMEGSA00B23	V. RESISTOR	2K	2
VR507	EVMEGSA00B13	V. RESISTOR	1K	1
VR800	EVMEGSA00B53	V. RESISTOR	5K	1
VR801	EVMEGSA00B13	V. RESISTOR	1K	1
VR802	EVMEGSA00B53	V. RESISTOR	5K	1
VR803	EVMEGSA00B13	V. RESISTOR	1K	1
VR800	EVMEGSA00B54	V. RESISTOR	50K	1
VR901	EVMEGSA00B14	V. RESISTOR	10K	1
VR902	EVMEGSA00B53	V. RESISTOR	5K	1
VR1000	EVMEGSA00B24	V. RESISTOR	20K	1
VR1050	EVMEGSA00B53	V. RESISTOR	5K	1
VR1100	EVMEGSA00B53	V. RESISTOR	5K	1
VR1102	EVMEGSA00B53	V. RESISTOR	5K	1
X900	VXS0338	CRYSTAL OSCILLATOR	1	
X901	VXS0567A	CRYSTAL OSCILLATOR	1	
X1000	VXS0081	CRYSTAL OSCILLATOR	1	
X1050	VXS0788	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
VML2143		GARD PULLER	1	
VML2144		GARD PULLER	1	
■ VEP83353A		P. C. BOARD W/COMPONENT	1 (RTL)	
		F5 REC PB		
C3101-08	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	8	
C3121	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C3122	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C3123	ECUM1H331JGN	G. CAPACITOR CH 50V 330P	1	
C3124	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C3125, 26	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C3127	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C3128	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C3129	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1	
C3130	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C3131	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C3132	ECUM1H102JGN	G. CAPACITOR CH 50V 1000P	1	
C3134	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C3135	ECUM1H151JGN	G. CAPACITOR CH 50V 150P	1	
C3136	ECUM1H470JGN	G. CAPACITOR CH 50V 47P	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3137, 38	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
C3139, 40	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3141	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C3142	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3145	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3146, 47	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3148	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3149	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3150	ECEV1EN3R3Q	E. CAPACITOR CH 25V 3.3U	1	
C3151	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3152	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3153-62	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	10	
C3171-84	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	14	
C3185	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3191-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	25	
C3216	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3221-28	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3229	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3241	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3242-49	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3250	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3261	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3262	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
C3263	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3264	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3265-68	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3269	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3281-89	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
C3292, 93	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	2	
C3301-18	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	18	
C3319	VCK0151	C. CAPACITOR	1	
C3320	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3321	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3322	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3323	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3324	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3325	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3326	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3327, 28	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3329	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3330	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C3331	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3332	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
C3333	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3334	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3335	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3336	ECUM1H682KBN	C. CAPACITOR CH 50V 6800P	1	
C3337	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3341-53	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	13	
C3354	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3361, 62	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3367-70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3381-82	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	12	
C3421-32	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	12	
C3441	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3442-45	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C3451-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
C3459	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3460, 61	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3471-77	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	7	
C3478	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C3485, 86	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3491-95	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C3501	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3502-04	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
C3506	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3509	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3510	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C3511	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C3512	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3513	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C3514	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C3515, 16	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3520	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C3521, 22	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3523-25	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	3	
C3601	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3602	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C3605	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C3701, 02	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3703	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3704, 05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3706	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3707, 08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3709	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C3710, 11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3712	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3713, 14	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3715	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3716, 17	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3718	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3719, 20	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3721	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3722, 23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C3724	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C3731-33	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	3	
D3101	MA715	DIODE	1	
D3102	MA335-R	DIODE	1	
D3103, 04	MA152K	DIODE	2	
D3111, 12	MA701A	DIODE	2	
D3501-03	MA715	DIODE	3	
D3507, 08	MA152K	DIODE	2	
FL3101	VLF1116	FILTER	1	
FL3102	VLF1117	FILTER	1	
FL3103	VLF1118	FILTER	1	
FL3104-06	VLF1016A223	FILTER	3	
IC3001	UPD65841G025	IC	1	
IC3003	MN67372A2	IC	1	
IC3004	MN4706F	IC	1	
IC3005	MN67371F	IC	1	
IC3006	M65401FP	IC	1	
IC3007	L7A1433	IC	1	
IC3008	MB81V4260S7	IC	1	
IC3009, 10	L7A1434	IC	2	
IC3011	L7A1433	IC	1	
IC3012	MB81V4260S7	IC	1	
IC3013	MN67371F	IC	1	
IC3014	M65401FP	IC	1	
IC3015	M52660FP	IC	1	
IC3016	MN67372A2	IC	1	
IC3017	MN4706F	IC	1	
IC3018-21	UPD42280G3	IC	4	
IC3022	UPD65843G026	IC	1	
IC3023	UPD42280G3	IC	1	
IC3024	UPD65868D022	IC	1	
IC3025	UPD71055GB	IC	1	
IC3028	UPD42280G3	IC	1	
IC3030	UPD71055GB	IC	1	
IC3031	T160641-1437	IC	1	
IC3101, 02	TCVHC257F	IC	2	
IC3103, 04	T74VHC244F	IC	2	
IC3105	MC74HC125AF	IC	1	
IC3107	TC7S66F	IC	1	
IC3108, 09	NJM082BM	IC	2	
IC3110	TC7S04F	IC	1	
IC3111, 12	74F244SJ	IC	2	
IC3113	T74LX244F	IC	1	
IC3114	MC10H124M	IC	1	
IC3115-17	T74LX244F	IC	3	
IC3118-20	T74VHC244F	IC	3	
IC3121	MC10H125M	IC	1	
IC3122	T74LX244F	IC	1	
IC3123-26	T74VHC245F	IC	4	
IC3127	TC7S66F	IC	1	
IC3128	T74VHC244F	IC	1	
IC3129	MC10H124M	IC	1	
IC3130	TC7S66F	IC	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC3131	T74VHC08F	IC	1	
IC3132	TCVHC257F	IC	1	
IC3133	T74VHC244F	IC	1	
IC3134-36	T74VHC244F	IC	3	
IC3141-44	74ALS541SJ	IC	4	
IC3145	MC10H125M	IC	1	
IC3146, 47	T74LX244F	IC	2	
IC3148	T74VHC74F	IC	1	
IC3149, 50	SN74S1051NS	IC	2	
IC3151, 52	74ALS541SJ	IC	2	
IC3153	74ALS245ASJ	IC	1	
IC3154	74AC139SJ	IC	1	
IC3156	T74VHC244F	IC	1	
IC3157	TC7S04F	IC	1	
IC3158	T74VHC244F	IC	1	
IC3159-61	TCVHC257F	IC	3	
IC3162	T74VHC74F	IC	1	
IC3163, 64	T74VHC244F	IC	2	
IC3165, 66	T74VHC245F	IC	2	
IC3167, 68	T74VHC244F	IC	2	
IC3169	TC7S04F	IC	1	
IC3201	NJM78L09UA	IC	1	
IC3202	NJM79L09UA	IC	1	
IC3203	NJM78L05UA	IC	1	
IC3204, 05	XG62AP3202P	IC	2	
IC3206	XG62AP3202P	IC	1	
IC3207, 08	XG62AP3202P	IC	2	
IC3501	M37709MAL162	IC	1	
IC3502	S80721ANDQ	IC	1	
IC3503	T74VHC08F	IC	1	
IC3504	T74VHC04F	IC	1	
IC3505	XG62AP3202P	IC	1	
IC3507, 08	TC7S66F	IC	2	
IC3601	M37709MAL162	IC	1	
IC3603	T74VHC08F	IC	1	
L3101-06	VLQ0319K470	COIL 47UH	6	
L3107	VLQ0163J3R9	COIL 3.9UH	1	
L3108	VLQ0319K470	COIL 47UH	1	
L3111	VLQ0163J1R5	COIL 1.5UH	1	
L3121-23	VLQ0319K100	COIL 10UH	3	
L3131, 32	VLPO133	COIL	2	
L3501	VLQ0319K470	COIL 47UH	1	
P3001, 02	VJP3454B096	CONNECTOR (MALE)	2	
P3003	VJP3418B060	CONNECTOR (MALE)	1	
Q3001	2SG2295-B	TRANSISTOR	1	
Q3501	2SB709A-R	TRANSISTOR	1	
QR3501	UN2214	TRANSISTOR-RESISTOR	1	
R3101, 02	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R3103-08	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	6	
R3109	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3110-13	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	4	
R3114	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3115	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R3117	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R3118	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R3120	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R3122	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R3123, 24	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R3125-30	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	6	
R3131	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R3141, 42	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R3143	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3145	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R3146, 47	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R3148	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R3149	ERJ6GEY0105	M. RESISTOR CH 1/10W 1M	1	
R3150	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R3152, 53	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R3154	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R3155	ERJ6GEY0272	M. RESISTOR CH 1/10W 2.7K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3156	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R3157	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R3158	ERJ6GEY0105	M. RESISTOR CH 1/10W 1M	1	
R3159	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R3160	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R3161	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3162, 63	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R3164	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R3165	ERJ6GEY0105	M. RESISTOR CH 1/10W 1M	1	
R3166	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R3167	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3168, 69	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R3171-75	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	5	
R3176	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3177-79	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	3	
R3182, 83	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R3185-88	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	4	
R3189-92	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	4	
R3193	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3195-01	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	7	
R3202	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3203-06	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	4	
R3211	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3212-19	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	8	
R3220	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3221-28	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	8	
R3241-48	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	8	
R3249	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3250-57	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	8	
R3258	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3259, 60	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R3271	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3272-75	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	4	
R3276-81	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	6	
R3282, 83	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R3284	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3285-87	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	3	
R3289-91	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	3	
R3292	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R3294-02	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	9	
R3303-06	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	4	
R3311	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R3312-22	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	11	
R3331	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R3332	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R3333, 34	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	2	
R3335-38	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	4	
R3339-42	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	4	
R3351	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R3352	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R3353	ERJ6GEY0105	M. RESISTOR CH 1/10W 1M	1	
R3361, 62	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R3363	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R3364	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R3365-69	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	5	
R3370, 71	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R3372	ERDS2TJ273	C. RESISTOR 1/4W 27K	1	
R3373	ERDS2TJ273	C. RESISTOR 1/4W 27K	1	
R3374	ERDS2TJ273	C. RESISTOR 1/4W 27K	1	
R3381	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R3382	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R3383	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3384-89	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	6	
R3390	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3393	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R3394	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1	
R3397	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R3398	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1	
R3399	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R3400	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R3401	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1	
R3404	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R3405	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1	
R3411	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R3421	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3423	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R3432, 33	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3434-36	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	3	
R3437	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	1	
R3438-53	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	16	
R3455, 56	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	2	
R3461	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3463, 64	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	2	
R3481	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3483-88	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	6	
R3491, 92	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3495	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3499	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	1	
R3501	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R3502, 03	ERJ6GEY8222	M. RESISTOR CH 1/10W 2.2K	2	
R3504, 05	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	2	
R3506, 07	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R3508-10	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	3	
R3511	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3512-14	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	3	
R3515	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3517-19	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	3	
R3520	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R3521, 22	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3523	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R3524	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3525	ERJ6GEY8105	M. RESISTOR CH 1/10W 1M	1	
R3527, 28	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	2	
R3529	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3530	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3531, 32	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	2	
R3533	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R3534	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R3535, 36	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3537	ERJ6GEY8105	M. RESISTOR CH 1/10W 1M	1	
R3538	ERJ6GEY8271	M. RESISTOR CH 1/10W 270	1	
R3539, 40	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3541, 42	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	2	
R3543	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3544	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R3545	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3546	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R3547	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3548	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R3549	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R3551	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3552	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R3555, 56	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3572-74	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	3	
R3576-84	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	19	
R3597, 98	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3601, 02	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R3603-07	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	5	
R3609, 10	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	2	
R3612, 13	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3614	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R3615	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3616, 17	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	2	
R3618	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R3621, 22	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3623, 24	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	2	
R3625	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R3626	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3627	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R3628	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3629	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R3632, 33	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3639-49	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	11	
R3651	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3652, 53	ERJ6GEY8222	M. RESISTOR CH 1/10W 2.2K	2	
R3654, 55	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	2	
R3656, 57	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	2	
R3673-75	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	3	
R3701	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3703	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3708	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3709	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R3710	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R3722	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	1	
R3725-32	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	8	
R3737-39	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	3	
R3743-46	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	4	
R3747-51	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	5	
R3752	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R3753	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R3754	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R3761, 62	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	2	
R3763-66	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	4	
R3767-74	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	8	
R3775	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	1	
R3776	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3777	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R3781-88	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	8	
R3789-94	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	6	
R3795-09	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	15	
R3811, 12	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R3816	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3818	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3820	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R3824	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	1	
R3825-40	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	16	
R3851, 52	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	2	
R3853	ERJ6GEY8331	M. RESISTOR CH 1/10W 330	1	
R3861-66	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	6	
R3869-84	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	16	
R3885	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	1	
R3887, 88	ERJ6GEY8331	M. RESISTOR CH 1/10W 330	2	
R3889	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	1	
R3890, 91	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	2	
R3892-07	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	16	
R3908	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	1	
SW3101	VSS0367-04B	SWITCH	1	
SW3102	VSS0367-08B	SWITCH	1	
T63101	VJR0646	TEST POINT	1	
T63102	EYF6CU	TEST POINT	1	
T63501	EYF6CU	TEST POINT	1	
TP3101-06	EYF6CU	TEST POINT	6	
TP3108-12	EYF6CU	TEST POINT	5	
TP3113	VJR0646	TEST POINT	1	
TP3114	EYF6CU	TEST POINT	1	
TP3501, 02	EYF6CU	TEST POINT	2	
TP3601, 02	EYF6CU	TEST POINT	2	
VC3001	ECV12W50X53T	TRIMMER	1	
VR3101-03	EVMEGSA00B24	V. RESISTOR	20K 3	
X3102	VXS0789	CRYSTAL OSCILLATOR	1	
X3103	VXS0645	CRYSTAL OSCILLATOR	1	
X3501	VXS0637	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	CARD PULLER	1	
	VML2144	CARD PULLER	1	
	■ VEP83355A	P. C. BOARD W/COMPONENT	1 (RTL)	
		F6 V IN		
C51-54	ECUM1E1042FN	C. CAPACITOR CH 25V 0.1U	4	
C55	ECV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C56	ECV0JV330Q	E. CAPACITOR CH6.3V 33U	1	
C57	ECV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C58-64	ECUM1E1042FN	C. CAPACITOR CH 25V 0.1U	7	
C65	ECV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C66	ECV0JV330Q	E. CAPACITOR CH6.3V 33U	1	
C67	ECV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C68-70	ECUM1E1042FN	C. CAPACITOR CH 25V 0.1U	3	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
G101-11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
G151-59	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
G160	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G201-08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
G210	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
G211	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
G212-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G251-54	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	1	
G255-60	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	6	
G261	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
G262, 63	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G264	ECEV1EV4R7Q	E. CAPACITOR CH 16V 4.7U	1	
G265-68	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G269, 70	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
G271-76	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	6	
G277	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
G278	ECUM1H181JCN	C. CAPACITOR CH 50V 180P	1	
G279, 80	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G281	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	1	
G283	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G284	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G285	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
G286	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G287	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
G288, 89	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G290	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	1	
G301, 02	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G303-06	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	4	
G307	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
G308-11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G312	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
G313	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G315	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G317-21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
G322	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
G324-26	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G327	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
G328, 20	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G330	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
G331-33	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G334	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
G351-54	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G355-57	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	3	
G358-61	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G363, 64	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G365, 66	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
G368-76	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	9	
G378	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
G380	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
G381	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
G383	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
G386, 87	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G389	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
G390, 91	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G392	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
G393	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
G394	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
G395	ECUM1H680JCN	C. CAPACITOR CH 50V 68P	1	
G396	ECUM1H070DCN	C. CAPACITOR CH 50V 7P	1	
G397	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G398	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
G399	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
G400	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G401	ECUM1H100DCN	C. CAPACITOR CH 50V 10P	1	
G402	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
G403-05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G406	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
G410-13	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
G414	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
G415, 16	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G417	ECEV1HV4R7Q	E. CAPACITOR CH 50V 4.7U	1	
G418-20	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	3	
G421-23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
G424	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
G425	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C426	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C427	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C429	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C430	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C431	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
C432	ECEV1HNR47Q	E. CAPACITOR CH 50V 0.47U	1	
C433	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C434	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C435-39	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C440	ECUM1H560JCN	C. CAPACITOR CH 50V 56P	1	
C442	ECUM1H070DCN	C. CAPACITOR CH 50V 7P	1	
C443	ECUM1H681JCN	C. CAPACITOR CH 50V 680P	1	
C451	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C452-55	ECEV1GV100Q	E. CAPACITOR CH 16V 10U	4	
C456-60	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C461-64	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	4	
C465	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
C466-70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C471, 72	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C473	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C474	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C475	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C476	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C477	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	1	
C478-80	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	3	
C481, 82	ECUM1H060CCN	C. CAPACITOR CH 50V 6P	2	
C483, 84	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C485, 86	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	2	
C487-90	ECUM1H080DCN	C. CAPACITOR CH 50V 8P	4	
C491, 92	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
C493-96	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	4	
C497-00	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	4	
C501, 02	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C503-06	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	4	
C510	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C511-15	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C516	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
C517	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C518, 19	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C520, 21	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C523	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	1	
C524, 25	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C526	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C527-30	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	4	
C531, 32	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C551, 52	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C553	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C554	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C555, 56	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C557	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C558, 59	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C560	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
C561	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C562	ECUM1H331JCN	C. CAPACITOR CH 50V 330P	1	
C563	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C564	ECUM1H271JCN	C. CAPACITOR CH 50V 270P	1	
C565	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C566	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C567	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	1	
C568	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C569, 70	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C571	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C572	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C573	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
C576	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C578	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C579, 80	ECEV1HNO10Q	E. CAPACITOR CH 50V 1U	2	
C601, 02	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C603-05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C651	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C652-54	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C655	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C656-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C659, 60	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	2	
C661, 62	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	



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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
G663, 64	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G665	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G666	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G667	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G668, 69	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G671	ECUM1H010CGN	G. CAPACITOR CH 50V 1P	1	
G672	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G673	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	1	
G675	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G676	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	1	
G677	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G678	ECUM1H331JGN	G. CAPACITOR CH 50V 330P	1	
G679	ECUM1H470JGN	G. CAPACITOR CH 50V 47P	1	
G680, 81	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G682	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G683-85	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G686	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G687-89	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G701	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G702	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G703-05	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G706	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G707-09	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G710, 11	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G712	ECUM1H0800CGN	G. CAPACITOR CH 50V 8P	1	
G713	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G714	ECUM1H470JGN	G. CAPACITOR CH 50V 47P	1	
G715	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G716, 17	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G718	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G719	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G720	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G721, 22	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G725	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G726	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	1	
G728	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G729	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	1	
G730	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G731	ECUM1H331JGN	G. CAPACITOR CH 50V 330P	1	
G732	ECUM1H470JGN	G. CAPACITOR CH 50V 47P	1	
G733, 34	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G735	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G736-38	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G739	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G740-42	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G751	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G752	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G753-55	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G756	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G757-59	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G760, 61	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G762	ECUM1H0800CGN	G. CAPACITOR CH 50V 8P	1	
G763	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G764	ECUM1H470JGN	G. CAPACITOR CH 50V 47P	1	
G765	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G766, 67	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G768	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G769	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G770	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G771, 72	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	2	
G775	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G776	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	1	
G778	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G779	ECUM1E104KBN	G. CAPACITOR CH 25V 0.1U	1	
G780	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G781	ECUM1H331JGN	G. CAPACITOR CH 50V 330P	1	
G782	ECUM1H470JGN	G. CAPACITOR CH 50V 47P	1	
G783, 84	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G785	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G786-88	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G789	ECEVOJV330Q	E. CAPACITOR CH6. 3V 33U	1	
G790-92	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
G801-11	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	11	
G852	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G865-67	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D251, 52	MA152K	DIODE	2	
D253	MA152WK	DIODE	1	
D301, 02	MA152K	DIODE	2	
D451	MA152K	DIODE	1	
D501	MA152WK	DIODE	1	
D551	MA152K	DIODE	1	
D552	MA335-R	DIODE	1	
D553	MA152WA	DIODE	1	
D651, 52	MA152K	DIODE	2	
D701, 02	MA152K	DIODE	2	
D751, 52	MA152K	DIODE	2	
FL51, 52	VLF1016A223	FILTER	2	
FL251	VLF1294	FILTER	1	
FL301	VLF1016A223	FILTER	1	
FL351	VLF1016A223	FILTER	1	
FL551, 52	VLF1016A223	FILTER	2	
FL651	VLF1294	FILTER	1	
FL652	VLF1016A223	FILTER	1	
FL701	VLF1295	FILTER	1	
FL702	VLF1016A223	FILTER	1	
FL751	VLF1295	FILTER	1	
FL752	VLF1016A223	FILTER	1	
FL801	VLF1016A223	FILTER	1	
IC51	AN78N09	IC	1	
IC52	AN78N05	IC	1	
IC53	AN79N09	IC	1	
IC54	AN79N05	IC	1	
IC101-03	MC10H125M	IC	3	
IC107	MC10H125M	IC	1	
IC109	74F821SG	IC	1	
IC110	74F244SJ	IC	1	
IC111	T74HCT541AF	IC	1	
IC151, 52	SN74S1051NS	IC	2	
IC153-55	74ALS541SJ	IC	3	
IC156	74ALS245ASJ	IC	1	
IC161	74AC139SJ	IC	1	
IC164, 65	UPD71055GB	IC	2	
IC201	VS12383	IC	1	
IC202	VS12382	IC	1	
IC203	T74HCT541AF	IC	1	
IC204	T74HCT374AF	IC	1	
IC205	74F574SJ	IC	1	
IC210	T74HCT374AF	IC	1	
IC251	DAC108S	IC	1	
IC252	NJM082BM	IC	1	
IC254	EL2082GS	IC	1	
IC255	NJM78L05UA	IC	1	
IC256	NJM79L05UA	IC	1	
IC257	TC4W53F	IC	1	
IC258	AN91A12S	IC	1	
IC259	MC74HC00AF	IC	1	
IC301	NJM79L05UA	IC	1	
IC302	NJM78L05UA	IC	1	
IC303	NJM084M	IC	1	
IC304	AD818AR	IC	1	
IC308	CXD1175AM	IC	1	
IC309	NJM78L05UA	IC	1	
IC351, 52	NJM78L05UA	IC	2	
IC353	NJM79L05UA	IC	1	
IC354	CXD2105AQ	IC	1	
IC355	AD8047AR	IC	1	
IC356	MC74HC4053F	IC	1	
IC357, 58	AD8047AR	IC	2	
IC359	MC74HC4053F	IC	1	
IC401	SN74LS221NS	IC	1	
IC402, 03	MM74HC221AM	IC	2	
IC404	MC74HC04AF	IC	1	
IC406	NJM78L05UA	IC	1	
IC407	NJM79L05UA	IC	1	
IC410	NJM082BM	IC	1	
IC414	MC74HC4053F	IC	1	
IC419	MC74HC4053F	IC	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC423	NJM082BM	IC	1	
IC428	UPD65013BC16	IC	1	
IC451	NJM319M	IC	1	
IC452, 53	NJM1496M	IC	2	
IC455, 56	MC74HC4053F	IC	2	
IC459	NJM78L05UA	IC	1	
IC460	NJM79L05UA	IC	1	
IC501	NJM78L05UA	IC	1	
IC502	NJM79L05UA	IC	1	
IC503	AN91A12S	IC	1	
IC504	MC14538BF	IC	1	
IC507	MN53015VZW	IC	1	
IC551	MC74HC00AF	IC	1	
IC552	TC4S584F	IC	1	
IC554	MC74HC74AF	IC	1	
IC557	SN74LS221NS	IC	1	
IC560	NJM082BM	IC	1	
IC561	TC4W53F	IC	1	
IC562	SN74LS221NS	IC	1	
IC567	MC74HC244AF	IC	1	
IC651	NJM78L05UA	IC	1	
IC652	NJM79L05UA	IC	1	
IC653	MC74HC4053F	IC	1	
IC655	NJM084M	IC	1	
IC656	AD848JR	IC	1	
IC660	CXD1175AM	IC	1	
IC661	NJM78L05UA	IC	1	
IC701	NJM78L05UA	IC	1	
IC702	NJM79L05UA	IC	1	
IC703	MC74HC4053F	IC	1	
IC705	NJM084M	IC	1	
IC706	AD848JR	IC	1	
IC710	CXD1175AM	IC	1	
IC711	NJM78L05UA	IC	1	
IC751	NJM78L05UA	IC	1	
IC752	NJM79L05UA	IC	1	
IC753	MC74HC4053F	IC	1	
IC755	NJM084M	IC	1	
IC756	AD848JR	IC	1	
IC760	CXD1175AM	IC	1	
IC761	NJM78L05UA	IC	1	
IC801	UPD42280G3	IC	1	
IC802	T160841-1437	IC	1	
IC803	UPD42280G3	IC	1	
IC804	MC74HC153F	IC	1	
IC851	MC74HC4053F	IC	1	
IC853	74F244SJ	IC	1	
IC857, 58	74F244SJ	IC	2	
L1, L2	VLP0133	COIL	2	
L51, 52	VLP0133	COIL	2	
L251-54	VLQ0319K101	COIL 100UH	4	
L255	VLQ0133J471	COIL 470UH	1	
L256	VLQ0319K101	COIL 100UH	1	
L301, 02	VLQ0319K101	COIL 100UH	2	
L351, 52	VLQ0319K101	COIL 100UH	2	
L354	VLQ0163J270	COIL 27UH	1	
L355	VLQ0163J6R8	COIL 6.8UH	1	
L356	VLQ0163J5R6	COIL 5.6UH	1	
L401	VLQ0319K101	COIL 100UH	1	
L451-55	VLQ0319K101	COIL 100UH	5	
L456	VLQ0163J470	COIL 47UH	1	
L457, 58	VLQ0163J680	COIL 68UH	2	
L501	VLQ0133J391	COIL 390UH	1	
L551	VLQ0163J3R3	COIL 3.3UH	1	
L601, 02	VLQ0319K101	COIL 100UH	2	
L651	VLQ0133J821	COIL 820UH	1	
L652	VLQ0319K101	COIL 100UH	1	
L701	VLQ0133J821	COIL 820UH	1	
L702	VLQ0319K101	COIL 100UH	1	
L751	VLQ0133J821	COIL 820UH	1	
L752	VLQ0319K101	COIL 100UH	1	
P1, P2	VJP3454B096	CONNECTOR (MALE)	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q251	2SB709A-R	TRANSISTOR	1	
Q252, 53	2SD601A-R	TRANSISTOR	2	
Q301	2SB709A-R	TRANSISTOR	1	
Q302	2SD601A-R	TRANSISTOR	1	
Q303	2SK374-R	TRANSISTOR	1	
Q351	2SD601A-R	TRANSISTOR	1	
Q352	2SB709A-R	TRANSISTOR	1	
Q401	2SD601A-R	TRANSISTOR	1	
Q451-54	2SD601A-R	TRANSISTOR	4	
Q455-58	2SB709A-R	TRANSISTOR	4	
Q459-67	2SD601A-R	TRANSISTOR	9	
Q551	2SC3757-R	TRANSISTOR	1	
Q552, 53	2SA1226	TRANSISTOR	2	
Q554	2SC3757-R	TRANSISTOR	1	
Q601-03	2SB709A-R	TRANSISTOR	3	
Q604	XN1213	TRANSISTOR-TRANSISTOR	1	
Q605	2SC3757-R	TRANSISTOR	1	
Q606-08	2SD601A-R	TRANSISTOR	3	
Q651	2SD601A-R	TRANSISTOR	1	
Q652-54	2SB709A-R	TRANSISTOR	3	
Q655	2SD601A-R	TRANSISTOR	1	
Q656	2SK374-R		1	
Q701	2SD601A-R	TRANSISTOR	1	
Q702	2SB709A-R	TRANSISTOR	1	
Q703	2SD601A-R	TRANSISTOR	1	
Q704	2SB709A-R	TRANSISTOR	1	
Q705	2SD601A-R	TRANSISTOR	1	
Q706	2SK374-R		1	
Q751	2SD601A-R	TRANSISTOR	1	
Q752	2SB709A-R	TRANSISTOR	1	
Q753	2SD601A-R	TRANSISTOR	1	
Q754	2SB709A-R	TRANSISTOR	1	
Q755	2SD601A-R	TRANSISTOR	1	
Q756	2SK374-R	TRANSISTOR	1	
QR151	MRN1403	TRANSISTOR	1	
QR501	MRN1403	TRANSISTOR	1	
R1-55	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	55	
R101-12	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	12	
R113	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R115-17	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	3	
R151-53	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	3	
R154-58	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	5	
R159, 60	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R202, 03	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R212	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R213	ERJ6GEYG181	M. RESISTOR CH 1/10W 180	1	
R214	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R216	ERJ6GEYG680	M. RESISTOR CH 1/10W 68	1	
R217	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R219	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R251	ERJ6GEYG183	M. RESISTOR CH 1/10W 18K	1	
R252	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R253	ERJ6GEYG562	M. RESISTOR CH 1/10W 5.6K	1	
R254	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R255	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R256	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R257	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R258, 59	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	2	
R260	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R261	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R262, 63	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R264	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R265	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R266, 67	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R268	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R269	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R270	ERJ6GEYJ684	M. RESISTOR CH 1/10W 680K	1	
R271-73	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3	
R274	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R275	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R301	ERJ6GEYG394	M. RESISTOR CH 1/10W 390K	1	
R302	ERJ6GEYG154	M. RESISTOR CH 1/10W 150K	1	
R303	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R304	ERJ6GEY0220	M. RESISTOR CH 1/10W 22	1	
R305	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R307	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R308	ERJ6GEY0122	M. RESISTOR CH 1/10W 1.2K	1	
R309, 10	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R311	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R313, 14	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R316, 17	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R318	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R319	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R352	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R353	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R354	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R355	ERJ6GEY0390	M. RESISTOR CH 1/10W 39	1	
R356	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R357, 58	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	2	
R359	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1	
R360	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R362, 63	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R365	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R366	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	1	
R367	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R368	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1	
R369, 70	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R371	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R373	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R375	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1	
R376	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R377	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1	
R379	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R380	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R381, 82	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R384	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R385	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R386	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R387, 88	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R391	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R393	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R395	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R401	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R402	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R403	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R404	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R405	ERJ6GEY0272	M. RESISTOR CH 1/10W 2.7K	1	
R406	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R407	ERJ6GEY0683	M. RESISTOR CH 1/10W 68K	1	
R408	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R409	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R410	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R412	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R413	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R417	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R418	ERJ6GEY0183	M. RESISTOR CH 1/10W 18K	1	
R419	ERJ6GEY0394	M. RESISTOR CH 1/10W 390K	1	
R421	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R422	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R424	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R426	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R428	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R429	ERJ6GEY0563	M. RESISTOR CH 1/10W 56K	1	
R430	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R431	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R432	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R433, 34	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R435, 36	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R440	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R441, 42	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R443	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R446, 47	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R450	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R451	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R452	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R453	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R454	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R455	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R456	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R457	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R458, 59	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R460, 61	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
R462	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R463	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R464, 65	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
R466	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R467	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R468, 69	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	2	
R470	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R471-74	ERJ6GEY0121	M. RESISTOR CH 1/10W 120	4	
R475-78	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	4	
R479	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R480, 81	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R482, 83	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R484, 85	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
R486, 87	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R488-91	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	4	
R492-99	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	8	
R500	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R501	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R502	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1	
R503	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R504-07	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	4	
R508-11	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	4	
R512-15	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	4	
R516-19	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	4	
R520-23	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	4	
R526	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R527	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R528	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R530	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R531-33	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	3	
R534	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R535	ERJ6GEYJ684	M. RESISTOR CH 1/10W 680K	1	
R536-38	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R539	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R540, 41	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R543	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R545	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R546	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R547	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R548	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R551	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R552	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R553	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R554	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R555	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R556	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R557, 58	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R559, 60	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R561	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R562	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R563	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R564	ERJ6GEY0683	M. RESISTOR CH 1/10W 68K	1	
R565	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R566	ERJ6GEY0681	M. RESISTOR CH 1/10W 680	1	
R567	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R571	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R572	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R573, 74	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	2	
R575	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R576	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R577	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R578	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R579	ERJ6GEY0223	M. RESISTOR CH 1/10W 22K	1	
R581	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R582	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R583, 84	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R601-03	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	3	
R604-06	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	3	
R607	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1	
R608	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R609, 10	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	2	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R611	ERJ66EYG562	M. RESISTOR CH 1/10W 5.6K	1	
R612	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R613	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R614, 15	ERJ66EYG272	M. RESISTOR CH 1/10W 2.7K	2	
R616-18	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	3	
R651	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R652	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R653	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R654	ERJ66EYG221	M. RESISTOR CH 1/10W 220	1	
R655	ERJ66EYG331	M. RESISTOR CH 1/10W 330	1	
R656	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R657	ERJ66EYG331	M. RESISTOR CH 1/10W 330	1	
R658	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	1	
R659	ERJ66EYG394	M. RESISTOR CH 1/10W 390K	1	
R660	ERJ66EYG154	M. RESISTOR CH 1/10W 150K	1	
R661	ERJ66EYG181	M. RESISTOR CH 1/10W 180	1	
R662	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R664, 65	ERJ66EYG122	M. RESISTOR CH 1/10W 1.2K	2	
R666	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R667	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R668, 69	ERJ66EYG101	M. RESISTOR CH 1/10W 100	2	
R670	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R671	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R672	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R673	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R674	ERJ66EYF333	M. RESISTOR CH 1/10W 33K	1	
R675	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R676	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R701	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R702	ERJ66EYG682	M. RESISTOR CH 1/10W 6.8K	1	
R703	ERJ66EYG273	M. RESISTOR CH 1/10W 27K	1	
R704	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	1	
R705, 06	ERJ66EYJ471	M. RESISTOR CH 1/10W 470	2	
R707, 08	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	2	
R709	ERJ66EYF561	M. RESISTOR CH 1/10W 560	1	
R710	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	1	
R711	ERJ66EYF561	M. RESISTOR CH 1/10W 560	1	
R712	ERJ66EYG394	M. RESISTOR CH 1/10W 390K	1	
R713	ERJ66EYJ274	M. RESISTOR CH 1/10W 270K	1	
R714	ERJ66EYG391	M. RESISTOR CH 1/10W 390	1	
R715	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R717	ERJ66EYG272	M. RESISTOR CH 1/10W 2.7K	1	
R718	ERJ66EYG122	M. RESISTOR CH 1/10W 1.2K	1	
R719	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R720	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R721, 22	ERJ66EYG101	M. RESISTOR CH 1/10W 100	2	
R723	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R724	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R725	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R726	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R727, 28	ERJ66EYF123	M. RESISTOR CH 1/10W 12K	2	
R729	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R751	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R752	ERJ66EYG682	M. RESISTOR CH 1/10W 6.8K	1	
R753	ERJ66EYG273	M. RESISTOR CH 1/10W 27K	1	
R754	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	1	
R755, 56	ERJ66EYJ471	M. RESISTOR CH 1/10W 470	2	
R757, 58	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	2	
R759	ERJ66EYF561	M. RESISTOR CH 1/10W 560	1	
R760	ERJ66EYG152	M. RESISTOR CH 1/10W 1.5K	1	
R761	ERJ66EYF561	M. RESISTOR CH 1/10W 560	1	
R762	ERJ66EYG394	M. RESISTOR CH 1/10W 390K	1	
R763	ERJ66EYJ274	M. RESISTOR CH 1/10W 270K	1	
R764	ERJ66EYG391	M. RESISTOR CH 1/10W 390	1	
R765	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R767	ERJ66EYG272	M. RESISTOR CH 1/10W 2.7K	1	
R768	ERJ66EYG122	M. RESISTOR CH 1/10W 1.2K	1	
R769	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R770	ERJ66EYG102	M. RESISTOR CH 1/10W 1K	1	
R771, 72	ERJ66EYG101	M. RESISTOR CH 1/10W 100	2	
R773	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R774	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R775	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R776	ERJ66EYG105	M. RESISTOR CH 1/10W 1M	1	
R777, 78	ERJ66EYF123	M. RESISTOR CH 1/10W 12K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R779	ERJ66EYG222	M. RESISTOR CH 1/10W 2.2K	1	
R801	ERJ66EYG103	M. RESISTOR CH 1/10W 10K	1	
R803	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R807	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R808-15	ERJ66EYG332	M. RESISTOR CH 1/10W 3.3K	8	
R816-22	ERJ66EYG391	M. RESISTOR CH 1/10W 390	7	
R823	ERJ66EYG332	M. RESISTOR CH 1/10W 3.3K	1	
R851	ERJ66EYG101	M. RESISTOR CH 1/10W 100	1	
R854-69	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	16	
R870, 71	ERJ66EYG101	M. RESISTOR CH 1/10W 100	2	
T81-86	VJR0646	TEST POINT	6	
TP301	VJR0646	TEST POINT	1	
TP401	VJR0646	TEST POINT	1	
TP402	EYF6CU	TEST POINT	1	
TP403-05	VJR0646	TEST POINT	3	
TP451	VJR0646	TEST POINT	1	
TP551-53	VJR0646	TEST POINT	3	
TP651	VJR0646	TEST POINT	1	
TP701	VJR0646	TEST POINT	1	
TP751	VJR0646	TEST POINT	1	
VL551	VLQ0415	COIL	1	
VR251	VRV0064B502	V. RESISTOR 5K	1	
VR301	VRV0064B502	V. RESISTOR 5K	1	
VR351	VRV0112B101	V. RESISTOR 100K	1	
VR352	VRV0064B201	V. RESISTOR 200	1	
VR353, 54	VRV0064B501	V. RESISTOR 500	2	
VR406, 07	VRV0064B102	V. RESISTOR 1K	2	
VR408-10	VRV0064B502	V. RESISTOR 5K	3	
VR459-66	VRV0064B102	V. RESISTOR 1K	8	
VR551	VRV0064B202	V. RESISTOR 2K	1	
VR552	VRV0064B502	V. RESISTOR 5K	1	
VR651	VRV0064B102	V. RESISTOR 1K	1	
VR652	VRV0064B502	V. RESISTOR 5K	1	
VR701, 02	VRV0064B102	V. RESISTOR 1K	2	
VR703	VRV0064B502	V. RESISTOR 5K	1	
VR751, 52	VRV0064B102	V. RESISTOR 1K	2	
VR753	VRV0064B502	V. RESISTOR 5K	1	
X401	VXS0338	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	GARD PULLER	1	
	VML2144	GARD PULLER	1	
	VEP84292A	P. C. BOARD W/COMPONENT	1 (RTL)	
		F7 A PROC		
G1, G2	ECEV1CV4700	E. CAPACITOR CH 16V 47U	2	
G3	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G4, G5	ECEV1CV4700	E. CAPACITOR CH 16V 47U	2	
G6	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G7	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
G8	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G9	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
G10	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G20-23	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	4	
G25, 26	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G27	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
G40	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
G41	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G42	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
G43-49	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	7	
G60-64	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	5	
G65	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
G66	ECUM1H100DGN	C. CAPACITOR CH 50V 10P	1	
G67	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
G68-73	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	6	
G80, 81	ECEV1CV4700	E. CAPACITOR CH 16V 47U	2	
G82-86	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	5	
G87-89	ECEV1HVR10	E. CAPACITOR CH 50V 0.1U	3	
G90	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C91	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C92	EGUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C93	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C94	EGUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
C96, 97	EGUM1H470JCN	G. CAPACITOR CH 50V 47P	2	
C100-02	EGUM1H103KBN	G. CAPACITOR CH 50V 0.01U	3	
C110-24	EGUM1H103KBN	G. CAPACITOR CH 50V 0.01U	15	
C130-39	EGUM1H103KBN	G. CAPACITOR CH 50V 0.01U	10	
FL2	VLF1016A470	FILTER	1	
IC1, C2	MC74HC541AF	IC	2	
IC4	MC10H125M	IC	1	
IC5	MC74HC153F	IC	1	
IC6, C7	MC74HC541AF	IC	2	
IC8	MC10H124M	IC	1	
IC9	MC74HC157AF	IC	1	
IC10	AD1893JST	IC	1	
IC11	K6256CL67L	IC	1	
IC12	T16GH7AF1216	IC	1	
IC13	K6256CL67L	IC	1	
IC14	MN53030VPR	IC	1	
IC15, 16	K6256CL67L	IC	2	
IC17	74AC04SJ	IC	1	
IC18, 19	74AC374SJ	IC	2	
IC20	TMSD72274PH	IC	1	
IC23	MC74HC4075F	IC	1	
IC24	NJM78L05UA	IC	1	
IC25	MC4044M	IC	1	
IC26	74AC04SJ	IC	1	
IC27	NJM78L05UA	IC	1	
IC28	MC4044M	IC	1	
IC30, 31	MC74HC541AF	IC	2	
IC34	MC74HC04AF	IC	1	
IC35	SN74S1051NS	IC	1	
IC36	74ALS541SJ	IC	1	
IC37	74ALS245ASJ	IC	1	
IC38	SN74S1051NS	IC	1	
IC39, 40	74ALS541SJ	IC	2	
IC41	MC74HC32AF	IC	1	
IC42	MC74HC138AF	IC	1	
IC43	UPD71055GB	IC	1	
IC44, 45	MC74HC74AF	IC	2	
IC46	MC74HC04AF	IC	1	
IC50	T74HGT541AF	IC	1	
IC51	MC74HC74AF	IC	1	
IC52	MC74HC157AF	IC	1	
IC53	MC74HC138AF	IC	1	
IC54	MC74HC08AF	IC	1	
IC55	MB621926	IC	1	
IC56	K6256CL67L	IC	1	
IC57	MC74HC157AF	IC	1	
IC58	UPD71055GB	IC	1	
L1, L2	VLP0133	COIL	2	
L3	VLQ0426J1R8	COIL 1.8UH	1	
P1, P2	VJP3454B096	CONNECTOR (MALE)	2	
P3	VJP3635A068	CONNECTOR (MALE)	1	
R1-R8	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	8	
R9	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R10	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	1	
R11	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R12	ERJ6GEY6101	M. RESISTOR CH 1/10W 100	1	
R13, 14	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	2	
R15-22	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	8	
R23	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	1	
R24, 25	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	2	
R26-28	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	3	
R29	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R30-36	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	7	
R37	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R38-45	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	8	
R46, 47	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R49	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R50	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	1	
R51	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R52-56	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	5	
R57-59	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	3	
R60	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	1	
R61	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R62	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	1	
R66-69	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	4	
R70-74	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	5	
R76	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R78	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R80, 81	ERJ6GEY6152	M. RESISTOR CH 1/10W 1.5K	2	
R82	ERJ6GEY6562	M. RESISTOR CH 1/10W 5.6K	1	
R83	ERJ6GEY6392	M. RESISTOR CH 1/10W 3.9K	1	
R84, 85	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	2	
R86, 87	ERJ6GEY6101	M. RESISTOR CH 1/10W 100	2	
R88-91	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	4	
R100	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R103, 04	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	2	
R110-32	ERJ6GEY6470	M. RESISTOR CH 1/10W 47	23	
R133-36	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	4	
R137-40	ERJ6GEY6332	M. RESISTOR CH 1/10W 3.3K	4	
R141-46	ERJ6GEY6152	M. RESISTOR CH 1/10W 1.5K	6	
R147-50	ERJ6GEY6332	M. RESISTOR CH 1/10W 3.3K	4	
R151-55	ERJ6GEY6152	M. RESISTOR CH 1/10W 1.5K	5	
R163-65	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	3	
R170-78	ERJ6GEY6331	M. RESISTOR CH 1/10W 330	9	
R180-82	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	3	
R183	ERJ3GEYJ103	M. RESISTOR CH 1/10W 10K	1	
R184, 85	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	2	
R187-90	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	4	
R194-96	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	3	
T61-63	VJR0646	TEST POINT	3	
TP1-P8	VJR0646	TEST POINT	8	
TP10-20	EYF6CU	TEST POINT	11	
X1	VSX0519	CRYSTAL OSCILLATOR	1	
X2	VSX0453	CRYSTAL OSCILLATOR	1	
X3	VSX0450	CRYSTAL OSCILLATOR	1	
X4	VSX0391	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VML2143	GARD PULLER	1	
	VML2144	GARD PULLER	1	
	VEP84293A	P. C. BOARD W/COMPONENT	1 (RTL)	
		F8 ADDA		
C4001-04	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	4	
C4005, 06	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4007, 08	EGUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4009, 10	ECEATHGE330	E. CAPACITOR 50V 33U	2	
C4023, 24	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C4061-64	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	4	
C4065, 66	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4067, 68	EGUM1H103KBN	G. CAPACITOR CH 50V 0.01U	2	
C4069, 70	ECEATHGE330	E. CAPACITOR 50V 33U	2	
C4083, 84	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	2	
C4121	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4122	EGUM1H820JCN	G. CAPACITOR CH 50V 82P	1	
C4123	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4124	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4125	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4126	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4127, 28	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C4129	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4130	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4131	ECEV0JV1010	E. CAPACITOR CH6.3V 100U	1	
C4132	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4133	EGUM1H330JCN	G. CAPACITOR CH 50V 33P	1	
C4134	ECUMTE104ZFN	G. CAPACITOR CH 25V 0.1U	1	
C4135	EGUM1H330JCN	G. CAPACITOR CH 50V 33P	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4136	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C4137, 38	ECEVOJV470Q	E. CAPACITOR CH6. 3V 47U	2	
C4139, 40	ECUM1H820JCN	C. CAPACITOR CH 50V 82P	2	
C4141, 42	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	2	
C4143, 44	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	2	
C4145-48	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C4149	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4150	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C4151	ECUM1H104ZFN	C. CAPACITOR CH 50V 150P	1	
C4152, 53	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C4154, 55	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	2	
C4158	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C4160	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C4162	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C4163, 64	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C4167	ECUM1H102JCN	C. CAPACITOR CH 50V 1000P	1	
C4169	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	1	
C4171	ECEV1GN100Q	E. CAPACITOR CH 16V 10U	1	
C4180	EGGF1H331J	C. CAPACITOR 50V 330P	1	
C4191	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4192	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C4193	ECEVOJV101Q	E. CAPACITOR CH6. 3V 100U	1	
C4194-96	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C4197	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4198	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4199	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C4200	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4201-03	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C4204	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4205	ECEVOJV101Q	E. CAPACITOR CH6. 3V 100U	1	
C4206	ECEV1GN100Q	E. CAPACITOR CH 16V 10U	1	
C4208, 09	ECEV1GN100Q	E. CAPACITOR CH 16V 10U	2	
C4211	ECEV1GN100Q	E. CAPACITOR CH 16V 10U	1	
C4221-24	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C4225, 26	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4227	ECEV1GN100Q	E. CAPACITOR CH 16V 10U	1	
C4228, 29	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4230, 31	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	2	
C4232, 33	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4234-37	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	4	
C4238, 39	ECEA10GE221	E. CAPACITOR 16V 220U	2	
C4240	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4241	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4242, 43	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4244, 45	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4246, 47	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4248	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4249	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4250, 51	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C4281	ECEV1GN100Q	E. CAPACITOR CH 16V 10U	1	
C4282, 83	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4284, 85	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	2	
C4286, 87	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4288-91	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	4	
C4292, 93	ECEA10GE221	E. CAPACITOR 16V 220U	2	
C4294	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4295	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4296, 97	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4298, 99	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4300, 01	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4302	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4303	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4304, 05	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C4341	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4342, 43	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4344-47	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C4348, 49	ECEVOJV101Q	E. CAPACITOR CH6. 3V 100U	2	
C4350, 51	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4352	ECEV1GN100Q	E. CAPACITOR CH 16V 10U	1	
C4353, 54	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4355, 56	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4357, 58	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4359, 60	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4381	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C4382	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4383	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C4384	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4385	VGG0030	G. CAPACITOR	1	
C4386	ECUM1H822KBN	C. CAPACITOR CH 50V 8200P	1	
C4387	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C4388	ECUM1H272KBN	C. CAPACITOR CH 50V 2700P	1	
C4389	ECUM1H182KBN	C. CAPACITOR CH 50V 1800P	1	
C4390	ECUM1H151JCN	C. CAPACITOR CH 50V 150P	1	
C4391	ECUM1H272KBN	C. CAPACITOR CH 50V 2700P	1	
C4392	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4393	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4394	ECUM1H390JCN	C. CAPACITOR CH 50V 39P	1	
C4395	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4396	ECUM1H273KBN	C. CAPACITOR CH 50V 0.027U	1	
C4397	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4398	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C4399	ECUM1C394KBN	C. CAPACITOR CH 16V 0.39U	1	
C4400	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4401, 02	EGHU1C104J	P. CAPACITOR 16V 0.1U	2	
C4403	ECUM1C224KBN	C. CAPACITOR CH 16V 0.22U	1	
C4404	ECUM1C394KBN	C. CAPACITOR CH 16V 0.39U	1	
C4405	EGHU1C104J	P. CAPACITOR 16V 0.1U	1	
C4406	ECUM1C394KBN	C. CAPACITOR CH 16V 0.39U	1	
C4407	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4408	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4409	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4410	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C4411	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
C4412	ECUM1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C4413	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4414	ECEVOJV101Q	E. CAPACITOR CH6. 3V 100U	1	
C4415	EGST1VY684Z	T. CAPACITOR CH 35V 0.68U	1	
C4416, 17	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C4418, 19	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	2	
C4420, 21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C4422	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
C4423	ECUM1H222KBN	C. CAPACITOR CH 50V 2200P	1	
C4424, 25	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C4426, 27	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
C4428	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	1	
C4429	EGHU1C104J	P. CAPACITOR 16V 0.1U	1	
C4430	ECUM1C105KBN	C. CAPACITOR CH 16V 1U	1	
C4461, 62	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	2	
C4463	ECEVOJV220Q	E. CAPACITOR CH6. 3V 22U	1	
C4464	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4465-67	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	3	
C4468	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4469-72	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C4473	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4474, 75	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C4501-03	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C4504	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4505, 06	ECUM1C474KBN	C. CAPACITOR CH 16V 0.47U	2	
C4507	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4508, 09	ECUM1H472KBN	C. CAPACITOR CH 50V 4700P	2	
C4510	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C4511	ECEV1H4R7Q	E. CAPACITOR CH 50V 4.7U	1	
C4512	ECUM1H223KBN	C. CAPACITOR CH 50V 0.022U	1	
C4513	VCF2JAB681J	G. CAPACITOR 630V 680P	1	
C4514, 15	ECUM1C474KBN	C. CAPACITOR CH 16V 0.47U	2	
C4516, 17	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
C4518	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C4519	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4520	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4521	VCF2GAB682J	G. CAPACITOR 400V 6800P	1	
C4522	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1	
C4523	VCF2GAB682J	G. CAPACITOR 400V 6800P	1	
C4524	ECUM1H471JCN	C. CAPACITOR CH 50V 470P	1	
C4551	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C4552	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C4553-56	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	4	
C4558	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C4559, 60	ECUM1H103ZFN	C. CAPACITOR CH 50V 0.01U	2	
D4001, 02	MA157	DIODE	2	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D4061, 62	MA157	DIODE	2	
D4221, 22	MA157	DIODE	2	
D4281, B2	MA157	DIODE	2	
D4341	MA157	DIODE	1	
D4342-44	MA152WK	DIODE	3	
D4461	MA152A	DIODE	1	
D4501-03	MA152A	DIODE	3	
FL4381	EIR70F012B	TRANSFORMER	1	
FL4382	VLF1069	FILTER	1	
FL4501, 02	VLF0941C223	FILTER	2	
FL4551	VLF0941C223	FILTER	1	
IC4001	NJM78L09UA	IC	1	
IC4002	NJM78L09UA	IC	1	
IC4003, 04	NJM4580ED	IC	2	
IC4005	MC14052BF	IC	1	
IC4006	NJM4580ED	IC	1	
IC4008	MC14053BF	IC	1	
IC4061	NJM78L09UA	IC	1	
IC4062	NJM78L09UA	IC	1	
IC4063, 64	NJM4580ED	IC	2	
IC4065	MC14052BF	IC	1	
IC4066	NJM4580ED	IC	1	
IC4068	MC14053BF	IC	1	
IC4121, 22	NJM2100MD	IC	2	
IC4123	T74VHC244F	IC	1	
IC4124	NJM78L05UA	IC	1	
IC4125-27	XG62AP3002P	IC	3	
IC4128	AK4503VF	IC	1	
IC4129	NJM4580ED	IC	1	
IC4131	T74VHGT244F	IC	1	
IC4191	NJM78L05UA	IC	1	
IC4192	MC74HCS41AF	IC	1	
IC4193	AK4320VM	IC	1	
IC4194, 95	NJM4580ED	IC	2	
IC4221	NJM78L05UA	IC	1	
IC4222	NJM78L05UA	IC	1	
IC4223	NJM4580ED	IC	1	
IC4224	MC14052BF	IC	1	
IC4225	NJM2043MD	IC	1	
IC4226	MC14053BF	IC	1	
IC4281	NJM4580ED	IC	1	
IC4282	MC14052BF	IC	1	
IC4283	NJM2043MD	IC	1	
IC4284	MC14053BF	IC	1	
IC4341, 42	NJM4580ED	IC	2	
IC4343	NJM4556AM	IC	1	
IC4344	MC14052BF	IC	1	
IC4345	NJM4580ED	IC	1	
IC4381	NJM4580ED	IC	1	
IC4382	MC14053BF	IC	1	
IC4383	CXA1102M	IC	1	
IC4384, 85	NJM4580ED	IC	2	
IC4386	MC14052BF	IC	1	
IC4388	NJM4580ED	IC	1	
IC4389	AN78N09	IC	1	
IC4390	AN78N09	IC	1	
IC4391, 92	NJM4580ED	IC	2	
IC4461-63	NJM4580ED	IC	3	
IC4464	NJM78L05UA	IC	1	
IC4465	NJM78L05UA	IC	1	
IC4466	MC14053BF	IC	1	
IC4501	AN78N09	IC	1	
IC4551, 52	SN74S1051NS	IC	2	
IC4553	74ALS245ASJ	IC	1	
IC4554	74ALS541SJ	IC	1	
IC4555	74F04SJ	IC	1	
IC4556	74AC139SJ	IC	1	
IC4557, 58	UPD710556B	IC	2	
L4121	VL00163J100	COIL	10UH	1
L4191	VL00163J100	COIL	10UH	1
L4381	VL00423J472	COIL	4700UH	1

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
P4001, 02	VJP3454B096	CONNECTOR (MALE)	2	
Q4221	2SD1994A-R	TRANSISTOR	1	
Q4222	2SB1322A-R	TRANSISTOR	1	
Q4223	2SD1994A-R	TRANSISTOR	1	
Q4224	2SB1322A-R	TRANSISTOR	1	
Q4225	2SD602A-R	TRANSISTOR	1	
Q4226-29	2SD1328	TRANSISTOR	4	
Q4230	2SB710A-R	TRANSISTOR	1	
Q4281	2SD1994A-R	TRANSISTOR	1	
Q4282	2SB1322A-R	TRANSISTOR	1	
Q4283	2SD1994A-R	TRANSISTOR	1	
Q4284	2SB1322A-R	TRANSISTOR	1	
Q4285	2SD602A-R	TRANSISTOR	1	
Q4286-89	2SD1328	TRANSISTOR	4	
Q4290	2SB710A-R	TRANSISTOR	1	
Q4341-44	2SB710A-R	TRANSISTOR	4	
Q4345, 46	2SD1328	TRANSISTOR	2	
Q4347	2SD602A-R	TRANSISTOR	1	
Q4348	2SD1328	TRANSISTOR	1	
Q4350	2SB710A-R	TRANSISTOR	1	
Q4381, 82	2SD1149-RS	TRANSISTOR	2	
Q4383	2SB792-R	TRANSISTOR	1	
Q4384, 85	2SD602A-R	TRANSISTOR	2	
Q4386	2SB710A-R	TRANSISTOR	1	
Q4461-63	2SD1328	TRANSISTOR	3	
Q4501	2SB710A-R	TRANSISTOR	1	
Q4502	2SD602A-R	TRANSISTOR	1	
Q4503	2SB710A-R	TRANSISTOR	1	
Q4504-06	2SD602A-R	TRANSISTOR	3	
Q4507	2SB710A-R	TRANSISTOR	1	
Q4508	2SD602A-R	TRANSISTOR	1	
Q4509	2SB710A-R	TRANSISTOR	1	
Q4510-13	2SD602A-R	TRANSISTOR	4	
QR4191	UN2213	TRANSISTOR-RESISTOR	1	
QR4341, 42	UN2213	TRANSISTOR-RESISTOR	2	
QR4381, 82	UN2213	TRANSISTOR-RESISTOR	2	
R4001	ERJ6GEY6562	M. RESISTOR GH 1/10W 5.6K	1	
R4002	ERJ6GEY6102	M. RESISTOR GH 1/10W 1K	1	
R4003	ERJ6GEY6103	M. RESISTOR GH 1/10W 10K	1	
R4004	ERJ12YJ621	M. RESISTOR GH 1/2W 620	1	
R4005	ERJ6GEY6103	M. RESISTOR GH 1/10W 10K	1	
R4006	VRE0034E223	M. RESISTOR GH 1/10W 22K	1	
R4007	ERJ6GEY6103	M. RESISTOR GH 1/10W 10K	1	
R4008, 09	VRE0034E473	M. RESISTOR GH 1/10W 47K	2	
R4010, 11	VRE0034E123	M. RESISTOR GH 1/10W 12K	2	
R4016	VRE0034E32B	M. RESISTOR GH 1/10W 32	1	
R4017	VRE0034E333	M. RESISTOR GH 1/10W 33K	1	
R4018	ERJ6GEYJ335	M. RESISTOR GH 1/10W 3.3M	1	
R4019	VRE0034E332	M. RESISTOR GH 1/10W 3.3K	1	
R4020	ERJ6GEYJ335	M. RESISTOR GH 1/10W 3.3M	1	
R4021	VRE0034E332	M. RESISTOR GH 1/10W 3.3K	1	
R4022	VRE0034E32B	M. RESISTOR GH 1/10W 32	1	
R4023	VRE0034E333	M. RESISTOR GH 1/10W 33K	1	
R4029, 30	VRE0034E472	M. RESISTOR GH 1/10W 4.7K	2	
R4032	VRE0034E472	M. RESISTOR GH 1/10W 4.7K	1	
R4034	VRE0034E472	M. RESISTOR GH 1/10W 4.7K	1	
R4036, 37	VRE0034E470	M. RESISTOR GH 1/10W 47	2	
R4040	ERJ6GEY6103	M. RESISTOR GH 1/10W 10K	1	
R4041	ERJ6GEYJ471	M. RESISTOR GH 1/10W 470	1	
R4043	ERJ6GEYOR00	M. RESISTOR GH 1/10W 0	1	
R4045	ERJ6GEY6103	M. RESISTOR GH 1/10W 10K	1	
R4046-55	ERJ6GEYOR00	M. RESISTOR GH 1/10W 0	10	
R4061	ERJ6GEY6562	M. RESISTOR GH 1/10W 5.6K	1	
R4062	ERJ6GEY6102	M. RESISTOR GH 1/10W 1K	1	
R4063	ERJ6GEY6103	M. RESISTOR GH 1/10W 10K	1	
R4064	ERJ12YJ621	M. RESISTOR GH 1/2W 620	1	
R4065	ERJ6GEY6103	M. RESISTOR GH 1/10W 10K	1	
R4066	VRE0034E223	M. RESISTOR GH 1/10W 22K	1	
R4067	ERJ6GEY6103	M. RESISTOR GH 1/10W 10K	1	
R4068, 69	VRE0034E473	M. RESISTOR GH 1/10W 47K	2	
R4070, 71	VRE0034E123	M. RESISTOR GH 1/10W 12K	2	
R4076	VRE0034E32B	M. RESISTOR GH 1/10W 32	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4077	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R4078	ERJ66EYJ335	M. RESISTOR CH 1/10W 3.3M	1	
R4079	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R4080	ERJ66EYJ335	M. RESISTOR CH 1/10W 3.3M	1	
R4081	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R4082	VRE0034E32B	M. RESISTOR CH 1/10W 32	1	
R4083	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R4089, 90	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	2	
R4092	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4094	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4096, 97	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R4100	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4101	ERJ66EYJ471	M. RESISTOR CH 1/10W 470	1	
R4103	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4105	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4106-15	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	10	
R4121, 22	ERJ66EYJ331	M. RESISTOR CH 1/10W 330	2	
R4123, 24	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4125, 26	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R4127-30	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	4	
R4131, 32	ERJ66EYJ100	M. RESISTOR CH 1/10W 10	2	
R4133-38	VRE0034E103	M. RESISTOR CH 1/10W 10K	6	
R4139-42	VRE0034E471	M. RESISTOR CH 1/10W 470	4	
R4143	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4144, 45	ERJ66EYJ100	M. RESISTOR CH 1/10W 10	2	
R4146, 47	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R4150	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4152	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4154	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R4156, 57	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R4160	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4161	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4162	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4164	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4165	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4167	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4168-70	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	3	
R4191	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4192, 93	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	2	
R4194	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4195-97	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	3	
R4198	ERJ66EYJ100	M. RESISTOR CH 1/10W 10	1	
R4199-01	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	3	
R4203	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R4204, 06	ERJ66EYJ223	M. RESISTOR CH 1/10W 22K	2	
R4206, 07	ERJ66EYJ221	M. RESISTOR CH 1/10W 220	2	
R4210, 11	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4213	ERJ66EYJ223	M. RESISTOR CH 1/10W 22K	1	
R4214, 15	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4217	ERJ66EYJ223	M. RESISTOR CH 1/10W 22K	1	
R4219	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4221	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4222	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4223	ERJ66EYJ223	M. RESISTOR CH 1/10W 22K	1	
R4224	VRE0034E301	M. RESISTOR CH 1/10W 300	1	
R4225	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R4226	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4227	VRE0034E123	M. RESISTOR CH 1/10W 12K	1	
R4228	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R4229	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R4230	ERJ66EYJ563	M. RESISTOR CH 1/10W 56K	1	
R4231	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4232	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R4233-36	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	4	
R4237, 38	ERJ66EYJ105	M. RESISTOR CH 1/10W 1M	2	
R4239, 40	VRE0034E153	M. RESISTOR CH 1/10W 15K	2	
R4241	ERJ66EYJ100	M. RESISTOR CH 1/10W 10	1	
R4242	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4243	VRE0034E150	M. RESISTOR CH 1/10W 15	1	
R4244	ERJ66EYJ100	M. RESISTOR CH 1/10W 10	1	
R4245-48	ERJ66EYJ562	M. RESISTOR CH 1/10W 5.6K	4	
R4249	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4250-53	ERJ14YJ100	M. RESISTOR CH 1/4W 10	4	
R4254	VRE0034E150	M. RESISTOR CH 1/10W 15	1	
R4255, 56	ERJ14YJ220	M. RESISTOR CH 1/4W 22	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4257, 58	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4259	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4260, 61	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4262	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4263-66	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	4	
R4267-70	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	4	
R4281	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4282	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4283	ERJ66EYJ223	M. RESISTOR CH 1/10W 22K	1	
R4284	VRE0034E301	M. RESISTOR CH 1/10W 300	1	
R4285	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R4286	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R4287	VRE0034E123	M. RESISTOR CH 1/10W 12K	1	
R4288	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R4289	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R4290	ERJ66EYJ563	M. RESISTOR CH 1/10W 56K	1	
R4291	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4292	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R4293-96	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	4	
R4297, 98	ERJ66EYJ105	M. RESISTOR CH 1/10W 1M	2	
R4299, 00	VRE0034E153	M. RESISTOR CH 1/10W 15K	2	
R4301	ERJ66EYJ100	M. RESISTOR CH 1/10W 10	1	
R4302	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4303	VRE0034E150	M. RESISTOR CH 1/10W 15	1	
R4304	ERJ66EYJ100	M. RESISTOR CH 1/10W 10	1	
R4305-08	ERJ66EYJ562	M. RESISTOR CH 1/10W 5.6K	4	
R4309	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R4310-13	ERJ14YJ100	M. RESISTOR CH 1/4W 10	4	
R4314	VRE0034E150	M. RESISTOR CH 1/10W 15	1	
R4315, 16	ERJ14YJ220	M. RESISTOR CH 1/4W 22	2	
R4317, 18	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4319	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4320, 21	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4322	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4323-26	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	4	
R4327-30	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	4	
R4341, 42	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4343	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R4344	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4345	ERJ66EYJ105	M. RESISTOR CH 1/10W 1M	1	
R4346	ERJ66EYJ104	M. RESISTOR CH 1/10W 100K	1	
R4347-50	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	4	
R4351, 52	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	2	
R4353	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4354	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4355	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4356-58	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	3	
R4359	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4360	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4362-64	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	3	
R4365	ERJ66EYF561	M. RESISTOR CH 1/10W 560	1	
R4366	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4367	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4368	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4369	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	1	
R4371, 72	ERJ66EYOR00	M. RESISTOR CH 1/10W 0	2	
R4374	ERJ66EYJ182	M. RESISTOR CH 1/10W 1.8K	1	
R4375	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4376	ERJ66EYJ182	M. RESISTOR CH 1/10W 1.8K	1	
R4377	ERJ66EYJ102	M. RESISTOR CH 1/10W 1K	1	
R4381, 82	ERJ66EYJ223	M. RESISTOR CH 1/10W 22K	2	
R4383	ERJ66EYF822	M. RESISTOR CH 1/10W 8.2K	1	
R4384	ERJ66EYJ100	M. RESISTOR CH 1/10W 10	1	
R4385	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4386	ERJ66EYF561	M. RESISTOR CH 1/10W 560	1	
R4387	ERJ66EYJ223	M. RESISTOR CH 1/10W 22K	1	
R4388	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4389	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4390	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R4391, 92	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	2	
R4393	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R4394	ERJ66EYJ103	M. RESISTOR CH 1/10W 10K	1	
R4395, 96	ERJ66EYF472	M. RESISTOR CH 1/10W 4.7K	2	
R4397	ERJ66EYF473	M. RESISTOR CH 1/10W 47K	1	
R4398	ERJ66EYJ221	M. RESISTOR CH 1/10W 220	1	



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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4399	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4503, 04	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	2	
R4400	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1		R4505	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4401	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1		R4506	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R4402	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4507	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R4403	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R4508	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4404	ERJ6GEYQ821	M. RESISTOR CH 1/10W 820	1		R4509	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R4405	ERJ6GEYF124	M. RESISTOR CH 1/10W 120K	1		R4510	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4406	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R4511	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R4407	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1		R4512	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1	
R4408	ERJ6GEYQ392	M. RESISTOR CH 1/10W 3.9K	1		R4513	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R4409	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R4514	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R4410	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1		R4515	ERJ6GEYQ220	M. RESISTOR CH 1/10W 22	1	
R4411	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1		R4516, 17	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	2	
R4412	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		R4518	ERJ6GEYQ332	M. RESISTOR CH 1/10W 3.3K	1	
R4413	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1		R4519	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R4414	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R4520	ERJ6GEYQ332	M. RESISTOR CH 1/10W 3.3K	1	
R4415	VRE0034E823	M. RESISTOR CH 1/10W 82K	1		R4521	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1	
R4416	ERJ6GEYQ392	M. RESISTOR CH 1/10W 3.9K	1		R4522, 23	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R4417	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R4524	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R4418	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R4525, 26	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R4419	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		R4527	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R4420	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R4528	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R4422	VRE0034E152	M. RESISTOR CH 1/10W 1.5K	1		R4529	ERJ6GEYQ180	M. RESISTOR CH 1/10W 18	1	
R4423	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R4530, 31	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R4424	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1		R4532	ERJ6GEYK1R0	M. RESISTOR CH 1/10W 1	1	
R4425	ERJ6GEYG182	M. RESISTOR CH 1/10W 1.8K	1		R4533	ERJ6GEYQ180	M. RESISTOR CH 1/10W 18	1	
R4426	VRE0034E392	M. RESISTOR CH 1/10W 3.9K	1		R4534	ERJ6GEYK1R0	M. RESISTOR CH 1/10W 1	1	
R4427	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1		R4535	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1	
R4428	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R4551, 52	ERJ6GEYQ103	M. RESISTOR CH 1/10W 10K	2	
R4429	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		R4553, 54	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R4431	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		R4555-62	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	8	
R4433	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1						
R4434	VRE0034E433	M. RESISTOR CH 1/10W 43K	1		SW4001	VSS0126	SWITCH	1	
R4435	ERJ6GEYQ223	M. RESISTOR CH 1/10W 22K	1		SW4061	VSS0126	SWITCH	1	
R4436	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		SW4381	VSS0367-04B	SWITCH	1	
R4437	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		SW4382	VSS0342	SWITCH	1	
R4439	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1						
R4441	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		T4501	VLTO866	TRANSFORMER	1	
R4442-44	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3		T4502	VLTO868	TRANSFORMER	1	
R4445	VRE0034E202	M. RESISTOR CH 1/10W 2K	1		T4503, 04	VLTO867	TRANSFORMER	2	
R4446	ERJ6GEYQ562	M. RESISTOR CH 1/10W 5.6K	1						
R4447	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		T64121, 22	VJR0646	TEST POINT	2	
R4448	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1		T64191, 92	VJR0646	TEST POINT	2	
R4449	ERJ6GEYQ332	M. RESISTOR CH 1/10W 3.3K	1		T64461	VJR0646	TEST POINT	1	
R4450	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1		T64501	VJR0646	TEST POINT	1	
R4451	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1						
R4461	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1		TP4121-26	VJR0646	TEST POINT	6	
R4462	VRE0034E182	M. RESISTOR CH 1/10W 1.8K	1		TP4191-93	VJR0646	TEST POINT	3	
R4463	VRE0034E271	M. RESISTOR CH 1/10W 270	1		TP4221	VJR0646	TEST POINT	1	
R4464	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1		TP4281	VJR0646	TEST POINT	1	
R4465	VRE0034E392	M. RESISTOR CH 1/10W 2.7K	1		TP4381-83	VJR0646	TEST POINT	3	
R4466	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		TP4501, 02	VJR0646	TEST POINT	2	
R4467	ERJ6GEYQ222	M. RESISTOR CH 1/10W 2.2K	1						
R4468	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	1		VR4002	VRV0064B103	V. RESISTOR	10K	1
R4470	VRE0034E243	M. RESISTOR CH 1/10W 24K	1		VR4062	VRV0064B103	V. RESISTOR	10K	1
R4472	ERJ6GEYQ470	M. RESISTOR CH 1/10W 47	1		VR4221	VRV0064B103	V. RESISTOR	10K	1
R4473	VRE0034E123	M. RESISTOR CH 1/10W 12K	1		VR4281	VRV0064B103	V. RESISTOR	10K	1
R4474	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1		VR4341	VRV0064B103	V. RESISTOR	10K	1
R4476	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1		VR4381	VRV0064B103	V. RESISTOR	10K	1
R4477	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		VR4382	VRV0064B503	V. RESISTOR	50K	1
R4478	VRE0034E124	M. RESISTOR CH 1/10W 120K	1		VR4383	VRV0064B502	V. RESISTOR	5K	1
R4479	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		VR4384	VRV0064B103	V. RESISTOR	10K	1
R4480	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	1		VR4385	VRV0064B203	V. RESISTOR	20K	1
R4481	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1		VR4501	VRV0064B104	V. RESISTOR	100K	1
R4482-84	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	3						
R4485	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1						
R4486	ERJ6GEYQ273	M. RESISTOR CH 1/10W 27K	1						
R4487, 88	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2		VML2143	CARD PULLER		1	
R4489	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1		VML2144	CARD PULLER		1	
R4491, 92	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2						
R4493	VRE0034E273	M. RESISTOR CH 1/10W 27K	1		■ VEP85048A	P. C. BOARD W/COMPONENT	1	(RTL)	
R4494	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1			H3 EQ			
R4495	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1						
R4501	ERJ6GEYG563	M. RESISTOR CH 1/10W 56K	1		G5001-04	EGUM1H104ZFN	C. CAPACITOR CH 50V	0.1U	4
R4502	ERJ6GEYQ332	M. RESISTOR CH 1/10W 3.3K	1		G5005, 06	EGUM1C105ZFN	C. CAPACITOR CH 16V	1U	2
					G5008, 09	EGUM1H104ZFN	C. CAPACITOR CH 50V	0.1U	2

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C5011, 12	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5013	ECUM1G105ZFN	C. CAPACITOR GH 16V 1U	1	
C5014, 15	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5016, 17	ECUM1H122KBN	C. CAPACITOR GH 50V 1200P	2	
C5018, 19	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5020	ECUM1H102JCN	C. CAPACITOR GH 50V 1000P	1	
C5021-29	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	9	
C5101-04	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	4	
C5105	ECUM1G105ZFN	C. CAPACITOR GH 16V 1U	1	
C5107	ECUM1G105ZFN	C. CAPACITOR GH 16V 1U	1	
C5108, 08	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5111-16	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	6	
C5117	ECUM1G105ZFN	C. CAPACITOR GH 16V 1U	1	
C5118-25	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	8	
C5126, 27	ECUM1H122KBN	C. CAPACITOR GH 50V 1200P	2	
C5128	ECUM1H102JCN	C. CAPACITOR GH 50V 1000P	1	
C5129-37	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	9	
C5202-11	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	10	
C5213-15	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	
C5217-19	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	
C5220	ECUM1G105ZFN	C. CAPACITOR GH 16V 1U	1	
C5223-30	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	8	
C5231	ECUM1H152KBN	C. CAPACITOR GH 50V 1500P	1	
C5232, 33	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5234	ECUM1H821JCN	C. CAPACITOR GH 50V 820P	1	
C5235	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5236	ECUM1G104KBN	C. CAPACITOR GH 16V 0.1U	1	
C5238-40	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	
C5241	ECUM1H680JCN	C. CAPACITOR GH 50V 68P	1	
C5242-47	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	6	
C5249, 50	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5251, 52	ECUM1H152KBN	C. CAPACITOR GH 50V 1500P	2	
C5253	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5254	ECUM1H152KBN	C. CAPACITOR GH 50V 1500P	1	
C5256	ECUM1H152KBN	C. CAPACITOR GH 50V 1500P	1	
C5258-62	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	5	
C5266	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5401-03	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	
C5405-11	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	7	
C5413-16	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	4	
C5418, 19	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5420	ECUM1G105ZFN	C. CAPACITOR GH 16V 1U	1	
C5423-32	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	10	
C5433	ECUM1H152KBN	C. CAPACITOR GH 50V 1500P	1	
C5434	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5435	ECUM1H821JCN	C. CAPACITOR GH 50V 820P	1	
C5436	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5437	ECUM1G104KBN	C. CAPACITOR GH 16V 0.1U	1	
C5439-41	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	
C5442	ECUM1H680JCN	C. CAPACITOR GH 50V 68P	1	
C5443-52	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	10	
C5453, 54	ECUM1H152KBN	C. CAPACITOR GH 50V 1500P	2	
C5455	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5456, 57	ECUM1H152KBN	C. CAPACITOR GH 50V 1500P	2	
C5460-64	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	5	
C5466	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5601-04	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	4	
C5605	ECUM1H040CCN	C. CAPACITOR GH 50V 4P	1	
C5606-09	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	4	
C5611	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5613, 14	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5619-22	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	4	
C5625	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5627	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5630	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5631	ECUM1H270JCN	C. CAPACITOR GH 50V 27P	1	
C5633-36	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	4	
C5638	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5643	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5701-05	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	5	
C5710, 11	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5715, 16	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5801, 02	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5806-09	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	4	
C5811-13	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C5818	ECUM1H100DGN	C. CAPACITOR GH 50V 10P	1	
C5819, 20	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5822	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5901, 02	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5904	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5909	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5912	ECEVOJV330Q	E. CAPACITOR CH6.3V 33U	1	
C5913	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5951	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5952	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C5953	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5954	ECEV1GV220Q	E. CAPACITOR CH 16V 22U	1	
C5955-57	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	
C5958	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C5959, 60	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5961	ECEV1GV220Q	E. CAPACITOR CH 16V 22U	1	
C5962, 83	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5964	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C5965, 66	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5967	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C5968, 69	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5970	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C5971, 72	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5973	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1	
C5974	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5975	ECEA1GE471	E. CAPACITOR 10V 470U	1	
C5976	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C5977, 78	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5979	ECEV1GV220Q	E. CAPACITOR CH 16V 22U	1	
C5980	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C5981-83	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	3	
C5984	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C5985	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5986	ECEV1GV470Q	E. CAPACITOR CH 16V 47U	1	
C5987, 88	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	2	
C5989	ECEV1EV100Q	E. CAPACITOR GH 25V 10U	1	
C5990	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
C5991	ECEV1GV220Q	E. CAPACITOR CH 16V 22U	1	
C5992	ECUM1H104ZFN	C. CAPACITOR GH 50V 0.1U	1	
D5001	MA3020	DIODE	1	
D5101	MA3020	DIODE	1	
D5201	MA3036-H	DIODE	1	
D5401	MA3036-H	DIODE	1	
D5402	MA3030-H	DIODE	1	
D5403	MA3033-L	DIODE	1	
D5901	MA152K	DIODE	1	
D5951-62	MA701A	DIODE	12	
FL5951-55	VLF1016A470	FILTER	5	
IC5001	AN3730FA	IC	1	
IC5101	M52055FP	IC	1	
IC5102	AN3730FA	IC	1	
IC5201	TC7S32F	IC	1	
IC5202	MC14053BF	IC	1	
IC5203	NJM319M	IC	1	
IC5204	NJM082BM	IC	1	
IC5205	TC7SH32F	IC	1	
IC5206	NJM084M	IC	1	
IC5207	AN3740FAP	IC	1	
IC5208	MC74HC4066F	IC	1	
IC5209	NJM082BM	IC	1	
IC5401	NJM082BM	IC	1	
IC5402	TC7W08F	IC	1	
IC5403	TC7S32F	IC	1	
IC5404	MC14053BF	IC	1	
IC5405	NJM082BM	IC	1	
IC5406	NJM084M	IC	1	
IC5407	NJM319M	IC	1	
IC5408	AN3740FAP	IC	1	
IC5409	MC74HC4066F	IC	1	
IC5410	NJM082BM	IC	1	
IC5411	T74LCX244F	IC	1	
IC5601	UPC1663G	IC	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC5602	NJM084M	IC	1	
IC5603	CXD2302Q	IC	1	
IC5701	MB88344PFV	IC	1	
IC5702	NJM084M	IC	1	
IC5703	NJM082BM	IC	1	
IC5801, 02	74F04SJ	IC	2	
IC5803	74F08SJ	IC	1	
IC5805	74F151ASJ	IC	1	
IC5806	74F157ASJ	IC	1	
IC5807	MC10H124M	IC	1	
IC5810	TC7S32F	IC	1	
IC5901	T160622-1225	IC	1	
IC5902	TC7W08F	IC	1	
IC5903	S80727ANDQ	IC	1	
IC5904	T74LCX244F	IC	1	
IC5951-54	XC62AP3002P	IC	4	
IC5955, 56	AN78M05F	IC	2	
IC5957, 58	AN78M05F	IC	2	
IC5959	NJM78L09UA	IC	1	
L5701	VLQ0163J100	COIL 10UH	1	
L5801	VLQ0163J8R2	COIL 8.2UH	1	
L5802	VLQ0163J2R7	COIL 2.7UH	1	
L5951-53	VLP0133	COIL	3	
P5951	VJP3454B096	CONNECTOR (MALE)	1	
P5952	VJP1231R	CONNECTOR (MALE) 4P	1	
P5953	VJP1231T	CONNECTOR (MALE) 4P	1	
Q5001	XN5531	TRANSISTOR	1	
Q5002	2SC2295-B	TRANSISTOR	1	
Q5003	XN5531	TRANSISTOR	1	
Q5004-12	2SC2295-B	TRANSISTOR	9	
Q5101	XN5531	TRANSISTOR	1	
Q5102	2SC2295-B	TRANSISTOR	1	
Q5103	XN5531	TRANSISTOR	1	
Q5104-10	2SC2295-B	TRANSISTOR	7	
Q5202, 03	2SC2295-B	TRANSISTOR	2	
Q5204	2SA1022-B	TRANSISTOR	1	
Q5401-03	2SC2295-B	TRANSISTOR	3	
Q5404	2SA1022-B	TRANSISTOR	1	
Q5601, 02	2SC2295-B	TRANSISTOR	2	
Q5603	XN5531	TRANSISTOR	1	
Q5606-08	2SC2295-B	TRANSISTOR	3	
QR5101	UN2213	TRANSISTOR-RESISTOR	1	
QR5401, 02	UN2213	TRANSISTOR-RESISTOR	2	
R5004	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R5006	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R5007	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R5008-11	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	4	
R5012	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5013, 14	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5015	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R5016	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5018	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5019	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1	
R5020-22	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	3	
R5023	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1	
R5025	ERJ6GEYG121	M. RESISTOR CH 1/10W 120	1	
R5026, 27	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R5028	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5029	ERJ6GEYG121	M. RESISTOR CH 1/10W 120	1	
R5030	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5031	ERJ6GEYG181	M. RESISTOR CH 1/10W 180	1	
R5032	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R5033	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5034	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5035, 36	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5037	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5038	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5039	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5040	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5041	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5042	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5043	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5044	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5045	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R5046, 47	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R5048	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5049	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R5050	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R5051	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5052	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R5053	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5054	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5101, 02	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R5103	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R5104, 05	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	2	
R5106	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
R5107	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R5108-11	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	4	
R5112	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R5114, 15	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5116	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5117	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5118	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5119	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5120	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1	
R5121	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5122	ERJ6GEYG391	M. RESISTOR CH 1/10W 390	1	
R5124	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R5125	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5126	ERJ6GEYG121	M. RESISTOR CH 1/10W 120	1	
R5127	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5128, 29	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5131	ERJ6GEYG121	M. RESISTOR CH 1/10W 120	1	
R5132	ERJ6GEYG181	M. RESISTOR CH 1/10W 180	1	
R5133	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R5134	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R5135, 36	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5137	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5138	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5139	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5141	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5142	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5143	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5144	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5145	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5146	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5147, 48	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5149	ERJ6GEYG122	M. RESISTOR CH 1/10W 1.2K	1	
R5150, 51	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R5152	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5206	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5208	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5210	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5211	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5212	ERJ6GEYG273	M. RESISTOR CH 1/10W 27K	1	
R5214	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5215	ERJ6GEYG682	M. RESISTOR CH 1/10W 6.8K	1	
R5216	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5217	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5218	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5219	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5220	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5222, 23	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5225	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5227	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5229	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5230	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R5231, 32	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R5233	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R5234	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5235	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5238	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R5239	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5240	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5242	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	



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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5243	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5244	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5245	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R5246	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5247	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5248	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5249	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R5250	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5251	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5252	ERJ6GEY0680	M. RESISTOR CH 1/10W 68	1	
R5253	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	
R5255	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R5256	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5257	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5258	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5259	ERJ6GEY0182	M. RESISTOR CH 1/10W 1.8K	1	
R5262	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R5263	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5264	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R5265	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R5266	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5267	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5269	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5270	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5271	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5273	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5277	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5281	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5283, 84	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5288	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5290	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5291	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R5292, 93	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R5302, 03	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R5401, 02	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5410, 11	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	2	
R5413	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5414	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5415	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R5416	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5417	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5418	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5419	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R5420	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R5421	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5422	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5425	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5426	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R5429	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5430	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5431	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5432	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5433	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5434	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5435	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5436	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5437	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5438, 39	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5440	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5441	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5442	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5445	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5446	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5447	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5449	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5450	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5451	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5452	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R5453	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5454	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5455	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5456	ERJ6GEY0331	M. RESISTOR CH 1/10W 330	1	
R5457	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5458	ERJ6GEY0680	M. RESISTOR CH 1/10W 68	1	
R5459	ERJ6GEYJ224	M. RESISTOR CH 1/10W 220K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5461	ERJ6GEY0821	M. RESISTOR CH 1/10W 820	1	
R5462	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5463	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5464	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5465	ERJ6GEY0182	M. RESISTOR CH 1/10W 1.8K	1	
R5468	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R5469	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5470	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R5471	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R5472	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5474	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5475	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5476	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5478	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5479	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5480	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5483	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5488	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5490, 91	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5494	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5496	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5497	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5498	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1	
R5499	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5501	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5502	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5504, 05	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R5508, 09	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R5601	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5602	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5603	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R5604, 05	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5606	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5607	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5608, 09	ERJ6GEY0151	M. RESISTOR CH 1/10W 150	2	
R5610	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5612, 13	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	2	
R5614, 15	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	2	
R5616	ERJ6GEY0271	M. RESISTOR CH 1/10W 270	1	
R5618	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5620	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5621	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5622	ERJ6GEY0271	M. RESISTOR CH 1/10W 270	1	
R5623	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5624	ERJ6GEYJ820	M. RESISTOR CH 1/10W 82	1	
R5627	ERJ6GEYJ820	M. RESISTOR CH 1/10W 82	1	
R5629	ERJ6GEY0680	M. RESISTOR CH 1/10W 68	1	
R5631	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	1	
R5632	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5634	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5635	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5639	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5640	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R5646	ERJ6GEY0182	M. RESISTOR CH 1/10W 1.8K	1	
R5647	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5650	ERJ6GEY0750	M. RESISTOR CH 1/10W 75	1	
R5654	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5656	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R5659	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R5663	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5664	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5667	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5674	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5675, 76	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R5701-03	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R5704-06	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R5707	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5708	ERJ6GEY0273	M. RESISTOR CH 1/10W 27K	1	
R5710	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	1	
R5711	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5712	ERJ6GEYF822	M. RESISTOR CH 1/10W 8.2K	1	
R5713, 14	ERJ6GEY0102	M. RESISTOR CH 1/10W 1K	2	
R5717	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	
R5718	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5724	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1	

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Ref. No.	Part No.	Part Name & Description	Pos	Remarks	Ref. No.	Part No.	Part Name & Description	Pos	Remarks
R5729	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	C5612	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
R5730	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	1		C5613	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
R5736	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	C5614	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
R5737, 38	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2		C5615	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
R5801	ERJ6GEY0682	M. RESISTOR CH 1/10W 6.8K	1		C5617	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
R5802	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		C5618, 19	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
R5807, 08	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	2	C5620, 21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
R5809	ERDS2T0	C. RESISTOR 1/4W	0	1	C5622	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
R5811-13	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	3		C5624	ECUM1H560JCN	C. CAPACITOR CH 50V 56P	1	
R5818-25	ERJ6GEY0391	M. RESISTOR CH 1/10W 390	8		C5626	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
R5830-33	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	4	C5628	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
R5835	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	C5630, 31	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
R5837-39	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	3	C5632	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
R5840	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	1		C5633-36	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
R5845	ERJ6GEYF561	M. RESISTOR CH 1/10W 560	1		C5637, 38	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
R5864	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	1	C5639, 40	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
R5866, 67	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	2	C5643-45	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
R5901-03	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3		C5646, 47	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
R5905	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1		C5648-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
R5906	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1		C5659	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
R5907, 08	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2		C5660	ECUM1H182KBN	C. CAPACITOR CH 50V 1800P	1	
R5909	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1		C5661-63	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
R5910	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1		C5665	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
R5911	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1		C5670	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
R5912	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1		C5671	ECUM1H330JCN	C. CAPACITOR CH 50V 33P	1	
R5914-16	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	3		C5700-07	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8	
R5917, 18	ERJ6GEY0R00	M. RESISTOR CH 1/10W	0	2	C5708	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
SW5801	VSS0367-04B	SWITCH	1		C5709-11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
T05101	VJR0646	TEST POINT	1		C5713	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
T05201	VJR0646	TEST POINT	1		C5714	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
T05401	VJR0646	TEST POINT	1		C5715	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
T05801	VJR0646	TEST POINT	1		C5717	ECUM1H473KBN	C. CAPACITOR CH 50V 0.047U	1	
TP5001, 02	VJR0646	TEST POINT	2		C5718, 19	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
TP5101, 02	VJR0646	TEST POINT	2		C5720, 21	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
TP5201-04	VJR0646	TEST POINT	4		C5722	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1	
TP5401-05	VJR0646	TEST POINT	5		C5724	ECUM1H560JCN	C. CAPACITOR CH 50V 56P	1	
TP5601, 02	VJR0646	TEST POINT	2		C5726	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	1	
TP5801, 02	EYF6GU	TEST POINT	2		C5728	ECUM1H121JCN	C. CAPACITOR CH 50V 120P	1	
TP5901	VJR0646	TEST POINT	1		C5730, 31	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
VR5210	VRV0109B203	V. RESISTOR 20K	1		C5732	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1	
VR5410	VRV0109B203	V. RESISTOR 20K	1		C5733-36	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
VR5601	VRV0109B102	V. RESISTOR 1K	1		C5737, 38	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	2	
VR5801	VRV0113B501	V. RESISTOR 500	1		C5739, 40	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
					C5743-45	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
					C5746, 47	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
					C5748-58	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	11	
					C5759	ECUM1H102KBN	C. CAPACITOR CH 50V 1000P	1	
					C5760	ECUM1H182KBN	C. CAPACITOR CH 50V 1800P	1	
		MISCELLANEOUS			D5001	MA153	DIODE	1	
	VML2143	CARD PULLER	1		D5002	MA152WK	DIODE	1	
	VML2144	CARD PULLER	1						
					FL5002-05	VLF0931	FILTER	4	
	■ VEP85049A	P. C. BOARD W/COMPONENT	1 (RTL)						
		H4 RF AMP							
G5003-12	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	10		IC5001	TL084CNS	IC	1	
G5013	ECEVOJV101Q	E. CAPACITOR CH 6.3V 100U	1		IC5002	MC74HC32AF	IC	1	
G5014	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1		IC5003	MC74HC04AF	IC	1	
G5020, 21	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	2		IC5004	NJM082BM	IC	1	
G5022, 23	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2		IC5005	MC74HC86F	IC	1	
G5024, 25	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	2		IC5006, 07	TC4S66F	IC	2	
G5026, 27	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2		IC5008	NJM082BM	IC	1	
G5052-54	ECUM1H221JCN	C. CAPACITOR CH 50V 220P	3		IC5009	MC14053BF	IC	1	
G5057-64	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8		IC5010	AN7805F	IC	1	
G5066, 67	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		IC5011	AN7905F	IC	1	
G5069-08	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	40		IC5012	NJM082BM	IC	1	
G5110-33	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	24		IC5013	MB88344PFV	IC	1	
G5136	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		IC5014-16	NJM082BM	IC	3	
G5140, 41	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		IC5017	MC14053BF	IC	1	
G5202, 03	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		IC5018	TL084CNS	IC	1	
G5206, 07	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		IC5019	NJM082BM	IC	1	
G5209, 10	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		IC5020	MC10H116L	IC	1	
G5600-07	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	8		IC5021	MC10H102L	IC	1	
G5608	ECUM1H470JCN	C. CAPACITOR CH 50V 47P	1		IC5022	MC10131L	IC	1	
G5609-11	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		IC5051	UPC1663B	IC	1	
					IC5052	NJM1496M	IC	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC5053	NJM082BM	IC	1	
IC5054	UPC1663G	IC	1	
IC5055	NJM1496M	IC	1	
L5600	VLQ0188K1RON	COIL	1	
L5601, 02	VLQ0188KR47N	COIL	2	
L5603, 04	VLQ0188J101	COIL 100UH	2	
L5605, 06	VLQ0163KR39	COIL 0.39UH	2	
L5700-02	VLQ0188K1RON	COIL	3	
L5703, 04	VLQ0188J101	COIL 100UH	2	
L5705, 06	VLQ0188KR39N	COIL 0.39UH	2	
P5001	VJP3454B096	CONNECTOR (MALE)	1	
P5002	VJP1230T	CONNECTOR (MALE) 3P	1	
P5003	VJP1230G	CONNECTOR (MALE) 3P	1	
P5004	VJP1230T	CONNECTOR (MALE) 3P	1	
P5005	VJP1230G	CONNECTOR (MALE) 3P	1	
Q5001	2SD601A-R	TRANSISTOR	1	
Q5002	2SB709A-R	TRANSISTOR	1	
Q5006, 07	2SA1022-G	TRANSISTOR	2	
Q5008	2SD601A-R	TRANSISTOR	1	
Q5600	XN6537	TRANSISTOR	1	
Q5601, 02	2SG2295-G	TRANSISTOR	2	
Q5603	XN5531	TRANSISTOR	1	
Q5604	2SG3130	TRANSISTOR	1	
Q5605	XN5531	TRANSISTOR	1	
Q5606, 07	2SK508K512	TRANSISTOR	2	
Q5608	2SG3130	TRANSISTOR	1	
Q5609, 10	2SD1979	TRANSISTOR	2	
Q5611-13	2SG3130	TRANSISTOR	3	
Q5614, 15	2SK508K512	TRANSISTOR	2	
Q5616-19	XN5531	TRANSISTOR	4	
Q5620, 21	2SG3130	TRANSISTOR	2	
Q5700	XN6537	TRANSISTOR	1	
Q5701, 02	2SG2295-G	TRANSISTOR	2	
Q5703	XN5531	TRANSISTOR	1	
Q5704	2SG3130	TRANSISTOR	1	
Q5705	XN5531	TRANSISTOR	1	
Q5706, 07	2SK508K512	TRANSISTOR	2	
Q5708	2SG3130	TRANSISTOR	1	
Q5709, 10	2SD1979	TRANSISTOR	2	
Q5711-13	2SG3130	TRANSISTOR	3	
Q5714, 15	2SK508K512	TRANSISTOR	2	
Q5716-19	XN5531	TRANSISTOR	4	
Q5720	2SG3130	TRANSISTOR	1	
R5001	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5003	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5010, 11	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5012, 13	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5015	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5018, 19	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5020	ERJ6GEY0104	M. RESISTOR CH 1/10W 100K	1	
R5021	ERJ6GEY0683	M. RESISTOR CH 1/10W 68K	1	
R5022-26	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	5	
R5040	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5041, 42	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5043	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R5044	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5046-48	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	3	
R5049, 50	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5051	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5052-54	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R5055	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R5056	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5057	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5058	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5059, 60	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	2	
R5061	ERJ6GEY0562	M. RESISTOR CH 1/10W 5.6K	1	
R5062	ERJ6GEY0392	M. RESISTOR CH 1/10W 3.9K	1	
R5063-65	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	3	
R5069-80	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	12	
R5081	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R5082	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5083, 84	VRE0034E153	M. RESISTOR CH 1/10W 15K	2	
R5085	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5086	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R5087	VRE0034E122	M. RESISTOR CH 1/10W 1.2K	1	
R5088, 89	VRE0034E153	M. RESISTOR CH 1/10W 15K	2	
R5090	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5091	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5092, 93	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R5094	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5095	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R5096	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5097, 98	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R5099	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5100	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R5111	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5112	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R5113	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R5114, 15	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R5116	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5117	VRE0034E472	M. RESISTOR CH 1/10W 4.7K	1	
R5118	VRE0034E272	M. RESISTOR CH 1/10W 2.7K	1	
R5119, 20	VRE0034E103	M. RESISTOR CH 1/10W 10K	2	
R5122	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R5130-33	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	4	
R5140-45	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	6	
R5146	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5148	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R5149	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5150	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5151	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R5153	VRE0034E562	M. RESISTOR CH 1/10W 5.6K	1	
R5154	VRE0034E333	M. RESISTOR CH 1/10W 33K	1	
R5155	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5156	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5161	ERJ6GEY0103	M. RESISTOR CH 1/10W 10K	1	
R5171, 72	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R5200, 01	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R5202-05	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	4	
R5206, 07	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R5208-10	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	3	
R5211, 12	ERJ6GEY0101	M. RESISTOR CH 1/10W 100	2	
R5214, 15	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	2	
R5216, 17	ERJ6GEY0121	M. RESISTOR CH 1/10W 120	2	
R5218, 19	ERJ6GEYJ820	M. RESISTOR CH 1/10W 82	2	
R5230	ERJ6GEY0153	M. RESISTOR CH 1/10W 15K	1	
R5231, 32	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5600, 01	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R5602	VRE0034E560	M. RESISTOR CH 1/10W 56	1	
R5603, 04	VRE0034E271	M. RESISTOR CH 1/10W 270	2	
R5605	VRE0034E680	M. RESISTOR CH 1/10W 68	1	
R5606	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R5607, 08	VRE0034E391	M. RESISTOR CH 1/10W 390	2	
R5609	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R5610, 11	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5612	ERJ6GEY0330	M. RESISTOR CH 1/10W 33	1	
R5613	ERJ6GEY0272	M. RESISTOR CH 1/10W 2.7K	1	
R5614	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5615	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5616, 17	ERJ6GEY0330	M. RESISTOR CH 1/10W 33	2	
R5618, 19	ERJ6GEY0332	M. RESISTOR CH 1/10W 3.3K	2	
R5620, 21	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5622, 23	ERJ6GEY0330	M. RESISTOR CH 1/10W 33	2	
R5624, 25	ERJ6GEY0152	M. RESISTOR CH 1/10W 1.5K	2	
R5626	VRE0034E181	M. RESISTOR CH 1/10W 180	1	
R5627	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5628	VRE0034E391	M. RESISTOR CH 1/10W 390	1	
R5629	VRE0034E181	M. RESISTOR CH 1/10W 180	1	
R5630	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5631	ERJ6GEY0221	M. RESISTOR CH 1/10W 220	1	
R5632	ERJ6GEY0222	M. RESISTOR CH 1/10W 2.2K	1	
R5633	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	1	
R5634	ERJ6GEY0330	M. RESISTOR CH 1/10W 33	1	
R5635	ERJ6GEY0272	M. RESISTOR CH 1/10W 2.7K	1	
R5637, 38	ERJ6GEY0470	M. RESISTOR CH 1/10W 47	2	
R5639, 40	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5642, 43	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R5644	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5645	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5646, 47	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5648	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5649	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5650, 51	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5652	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5653	ERJ6GEYG182	M. RESISTOR CH 1/10W 1.8K	1	
R5654, 55	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5656, 57	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	2	
R5658, 59	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R5660	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R5661	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5662	VRE0034E221	M. RESISTOR CH 1/10W 220	1	
R5663	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5664-66	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	3	
R5667, 68	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5669, 70	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5671, 72	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R5673, 74	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5675, 76	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5677, 78	VRE0034E391	M. RESISTOR CH 1/10W 390	2	
R5679, 80	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	2	
R5681, 82	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R5683, 84	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5685, 86	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5687, 88	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R5689	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5690	ERJ6GEYG182	M. RESISTOR CH 1/10W 1.8K	1	
R5691	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5692	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5693-96	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	4	
R5697	VRE0034E821	M. RESISTOR CH 1/10W 820	1	
R5698	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R5699-02	ERJ6GEYG560	M. RESISTOR CH 1/10W 56	4	
R5703	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1	
R5704	VRE0034E391	M. RESISTOR CH 1/10W 390	1	
R5705	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5706, 07	VRE0034E392	M. RESISTOR CH 1/10W 3.9K	2	
R5708	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R5709	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5710	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5711-15	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	5	
R5717	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5718	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5719	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5720	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5800, 01	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R5802	VRE0034E560	M. RESISTOR CH 1/10W 56	1	
R5803, 04	VRE0034E271	M. RESISTOR CH 1/10W 270	2	
R5805	VRE0034E121	M. RESISTOR CH 1/10W 120	1	
R5806	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R5807, 08	VRE0034E391	M. RESISTOR CH 1/10W 390	2	
R5809	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R5810, 11	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5812	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5813	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	1	
R5814	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5815	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5816, 17	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5818, 19	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	2	
R5820, 21	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5822, 23	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5824, 25	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	2	
R5826	VRE0034E181	M. RESISTOR CH 1/10W 180	1	
R5827	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5828	VRE0034E391	M. RESISTOR CH 1/10W 390	1	
R5829	VRE0034E181	M. RESISTOR CH 1/10W 180	1	
R5830	VRE0034E103	M. RESISTOR CH 1/10W 10K	1	
R5831	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R5832	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	1	
R5833	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5834	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5835	ERJ6GEYG272	M. RESISTOR CH 1/10W 2.7K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5836	VRE0034E101	M. RESISTOR CH 1/10W 100	1	
R5837	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5838	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	1	
R5839, 40	VRE0034E151	M. RESISTOR CH 1/10W 150	2	
R5842, 43	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2	
R5844	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5845	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5846, 47	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5848	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5849	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R5850, 51	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5852	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5853	ERJ6GEYG182	M. RESISTOR CH 1/10W 1.8K	1	
R5854, 55	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5856, 57	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	2	
R5858, 59	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	2	
R5860	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	1	
R5861	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5862	VRE0034E221	M. RESISTOR CH 1/10W 220	1	
R5863	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5864-66	ERJ6GEYG152	M. RESISTOR CH 1/10W 1.5K	3	
R5867, 68	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5869, 70	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5871, 72	ERJ6GEYG222	M. RESISTOR CH 1/10W 2.2K	2	
R5873, 74	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5875, 76	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5877, 78	VRE0034E391	M. RESISTOR CH 1/10W 390	2	
R5879, 80	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	2	
R5881, 82	VRE0034E470	M. RESISTOR CH 1/10W 47	2	
R5883, 84	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	2	
R5885, 86	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	2	
R5887, 88	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R5889	ERJ6GEYG330	M. RESISTOR CH 1/10W 33	1	
R5890	ERJ6GEYG182	M. RESISTOR CH 1/10W 1.8K	1	
R5891	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5892	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5893-96	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	4	
R5897	VRE0034E821	M. RESISTOR CH 1/10W 820	1	
R5898	VRE0034E102	M. RESISTOR CH 1/10W 1K	1	
R5899-02	ERJ6GEYG560	M. RESISTOR CH 1/10W 56	4	
R5903	VRE0034E822	M. RESISTOR CH 1/10W 8.2K	1	
R5904	VRE0034E391	M. RESISTOR CH 1/10W 390	1	
R5905	VRE0034E332	M. RESISTOR CH 1/10W 3.3K	1	
R5906, 07	VRE0034E392	M. RESISTOR CH 1/10W 3.9K	2	
R5908	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R5909	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R5910	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
R5911-14	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	4	
R5920	ERJ6GEYG470	M. RESISTOR CH 1/10W 47	1	
RY5001	VSY2069	RELAY	1	
SS5008	VJS1990	CONNECTOR (FEMALE)	1	
SW5008	VJP2536A003	CONNECTOR (MALE)	1	
T65001-03	VJR0646	TEST POINT	3	
T65005-09	VJR0646	TEST POINT	5	
TP5001-03	VJR0646	TEST POINT	3	
TP5007-12	VJR0646	TEST POINT	6	
TP5015-20	VJR0646	TEST POINT	6	
VG5600, 01	EGV1ZW20X53	TRIMMER	2	
VG5700, 01	EGV1ZW20X53	TRIMMER	2	
VR5001-14	VRV0064B502	V. RESISTOR	5K 14	
		MISCELLANEOUS		
	VNL2143	CARD PULLER	1	
	VNL2144	CARD PULLER	1	
	VSG3626	HEAT SINK (A)	2	
	XNG26E	NUT	2	
	XYN26+F10	SCREW	2	

OTH



## VEP85151A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP85151A	P.C. BOARD W/COMPONENT	1	(RTL)
		HEAD BUFF		
C5001	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5002	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5003	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5004	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5005	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5006	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5007	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5008	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5009	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
C5010	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
C5011-14	ECEV1EN4R7Q	E. CAPACITOR CH 25V 4.7U	4	
C5015, 16	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C5017-20	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	4	
C5021, 22	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	2	
C5050-60	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	11	
C5061, 62	EGUX1H221JGV	G. CAPACITOR CH 50V 220P	2	
C5063-66	EGUX1H822KBV	G. CAPACITOR CH 50V 8200P	4	
C5100-03	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	4	
C5200-03	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	4	
C5300-02	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	3	
C5303	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C5304	EGUX1H181JGV	G. CAPACITOR CH 50V 180P	1	
C5305	EGUX1H030CGV	G. CAPACITOR CH 50V 3P	1	
C5306	EGUX1H180JGV	G. CAPACITOR CH 50V 18P	1	
C5307, 08	EGUX1H080DGV	G. CAPACITOR CH 50V 8P	2	
C5350-52	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	3	
C5353	EGUX1H220JGV	G. CAPACITOR CH 50V 22P	1	
C5354	EGUX1H181JGV	G. CAPACITOR CH 50V 180P	1	
C5355	EGUX1H030CGV	G. CAPACITOR CH 50V 3P	1	
C5356	EGUX1H180JGV	G. CAPACITOR CH 50V 18P	1	
C5357, 58	EGUX1H080DGV	G. CAPACITOR CH 50V 8P	2	
C5400	EGUX1H121JGV	G. CAPACITOR CH 50V 120P	1	
C5401-05	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	5	
C5406, 07	EGUX1H102KBV	G. CAPACITOR CH 50V 1000P	2	
C5413-16	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	4	
C5420	EGUX1H121JGV	G. CAPACITOR CH 50V 120P	1	
C5421	EGUX1H221JGV	G. CAPACITOR CH 50V 220P	1	
C5500	EGUX1H121JGV	G. CAPACITOR CH 50V 120P	1	
C5501-05	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	5	
C5506, 07	EGUX1H102KBV	G. CAPACITOR CH 50V 1000P	2	
C5514-16	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	3	
C5520	EGUX1H121JGV	G. CAPACITOR CH 50V 120P	1	
C5521	EGUX1H221JGV	G. CAPACITOR CH 50V 220P	1	
C5600-10	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	11	
C5700-10	EGUX1E104ZFV	G. CAPACITOR CH 25V 0.1U	11	
C5801, 02	EGUX1H150JGV	G. CAPACITOR CH 50V 15P	2	
D5400, 01	MA152WK	DIODE	2	
D5500, 01	MA152WK	DIODE	2	
FL5001-05	VLF1016A470	FILTER	5	
IC5003	MC74HC04AF	IC	1	
IC5008, 09	TC4S66F	IC	2	
IC5010	XC62AP5002P	IC	1	
IC5011	XC62DN5002P	IC	1	
IC5014	NJM082BM	IC	1	
IC5023, 24	MC10H116L	IC	2	
IC5025, 26	TC4S69F	IC	2	
IC5027, 28	TC4S30F	IC	2	
IC5030-33	TC4S30F	IC	4	
IC5034	XC62DN5002P	IC	1	
IC5035	TC4S71F	IC	1	
IC5040-43	TC4S30F	IC	4	
IC5045	TC4S71F	IC	1	
IC5050	UPC5102GS030	IC	1	
IC5060	UPC5102GS030	IC	1	
L5300, 01	VLQ0163J2R2	COIL 2.2UH	2	
L5350, 51	VLQ0163J2R2	COIL 2.2UH	2	
L5400, 01	VLQ0163J330	COIL 33UH	2	
L5500, 01	VLQ0163J330	COIL 33UH	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
P5001	VJS3375B060	CONNECTOR (FEMALE)	1	
P5002	VJS3900A013	CONNECTOR (FEMALE)	1	
P5003	VJS3900A010	CONNECTOR (FEMALE)	1	
Q5200, 01	2SA1022-C	TRANSISTOR	2	
Q5300	2SD601A-R	TRANSISTOR	1	
Q5301	2SB709A-R	TRANSISTOR	1	
Q5302, 03	2SC3735B35	TRANSISTOR	2	
Q5350	2SD601A-R	TRANSISTOR	1	
Q5351	2SB709A-R	TRANSISTOR	1	
Q5352, 53	2SC3735B35	TRANSISTOR	2	
Q5400	2SA1022-C	TRANSISTOR	1	
Q5401-04	2SD1979	TRANSISTOR	4	
Q5405, 06	2SC2954	TRANSISTOR	2	
Q5407, 08	2SC3130	TRANSISTOR	2	
Q5409	2SC2954	TRANSISTOR	1	
Q5410, 11	2SA1022-C	TRANSISTOR	2	
Q5412, 13	2SK508-B	TRANSISTOR	2	
Q5500	2SA1022-C	TRANSISTOR	1	
Q5501-04	2SD1979	TRANSISTOR	4	
Q5505, 06	2SC2954	TRANSISTOR	2	
Q5507, 08	2SC3130	TRANSISTOR	2	
Q5509	2SC2954	TRANSISTOR	1	
Q5510, 11	2SA1022-C	TRANSISTOR	2	
Q5512, 13	2SK508-B	TRANSISTOR	2	
Q5600, 01	XN5531	TRANSISTOR	2	
Q5700, 01	XN5531	TRANSISTOR	2	
R5100	ERJ6GEY6682	M. RESISTOR CH 1/10W 6.8K	1	
R5101, 02	ERJ6GEY6153	M. RESISTOR CH 1/10W 15K	2	
R5103	ERJ6GEY6682	M. RESISTOR CH 1/10W 6.8K	1	
R5104, 05	ERJ6GEY6153	M. RESISTOR CH 1/10W 15K	2	
R5106-09	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	4	
R5200, 01	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	2	
R5202	ERJ6GEY6392	M. RESISTOR CH 1/10W 3.9K	1	
R5203, 04	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	2	
R5205	ERJ6GEY6562	M. RESISTOR CH 1/10W 5.6K	1	
R5206	ERJ6GEY6392	M. RESISTOR CH 1/10W 3.9K	1	
R5207, 08	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	2	
R5209	ERJ6GEY6392	M. RESISTOR CH 1/10W 3.9K	1	
R5210, 11	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	2	
R5212	ERJ6GEY6562	M. RESISTOR CH 1/10W 5.6K	1	
R5213	ERJ6GEY6392	M. RESISTOR CH 1/10W 3.9K	1	
R5214	ERJ6GEY6221	M. RESISTOR CH 1/10W 220	1	
R5215, 16	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R5217	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R5218	ERJ6GEY6221	M. RESISTOR CH 1/10W 220	1	
R5219, 20	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	2	
R5221	ERJ6GEY6102	M. RESISTOR CH 1/10W 1K	1	
R5300	ERJ6GEY6154	M. RESISTOR CH 1/10W 150K	1	
R5302	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5303	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R5304	ERJ6GEY6222	M. RESISTOR CH 1/10W 2.2K	1	
R5305	ERJ6GEY6392	M. RESISTOR CH 1/10W 3.9K	1	
R5306	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R5307	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5308	ERJ6GEY6122	M. RESISTOR CH 1/10W 1.2K	1	
R5309, 10	ERJ8GCGY101	M. RESISTOR CH 1/8W 100	2	
R5311	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5312	ERJ6GEY6122	M. RESISTOR CH 1/10W 1.2K	1	
R5313	ERJ8GCGYJ270	M. RESISTOR CH 1/8W 27	1	
R5314	ERJ6GEY6563	M. RESISTOR CH 1/10W 56K	1	
R5350	ERJ6GEY6154	M. RESISTOR CH 1/10W 150K	1	
R5352	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5353	ERJ6GEY6103	M. RESISTOR CH 1/10W 10K	1	
R5354	ERJ6GEY6222	M. RESISTOR CH 1/10W 2.2K	1	
R5355	ERJ6GEY6392	M. RESISTOR CH 1/10W 3.9K	1	
R5356	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R5357	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5358	ERJ6GEY6122	M. RESISTOR CH 1/10W 1.2K	1	
R5359, 60	ERJ8GCGY101	M. RESISTOR CH 1/8W 100	2	
R5361	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5362	ERJ6GEY6122	M. RESISTOR CH 1/10W 1.2K	1	
R5363	ERJ8GCGYJ270	M. RESISTOR CH 1/8W 27	1	

## VEP83224B

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5364	ERJ6GEY8563	M. RESISTOR CH 1/10W 56K	1	
R5400, 01	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	2	
R5402-04	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	3	
R5405-08	ERJ6GEY8222	M. RESISTOR CH 1/10W 2.2K	4	
R5409-13	ERJ6GEY8152	M. RESISTOR CH 1/10W 1.5K	5	
R5414	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R5415	ERJ8GCYJ221	M. RESISTOR CH 1/8W 220	1	
R5416	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R5417	ERJ6GEY8152	M. RESISTOR CH 1/10W 1.5K	1	
R5419	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	1	
R5420, 21	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	2	
R5424, 25	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	2	
R5426	ERJ6GEY8821	M. RESISTOR CH 1/10W 820	1	
R5427	ERJ6GEY8151	M. RESISTOR CH 1/10W 150	1	
R5428	ERJ6GEY8821	M. RESISTOR CH 1/10W 820	1	
R5429	ERJ6GEY8151	M. RESISTOR CH 1/10W 150	1	
R5430	ERJ12YJ270	M. RESISTOR CH 1/2W 270	1	
R5431	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R5432, 33	ERJ6GEY8182	M. RESISTOR CH 1/10W 1.8K	2	
R5434	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5435	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R5440	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R5500, 01	ERJ6GEYF123	M. RESISTOR CH 1/10W 12K	2	
R5502-04	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	3	
R5505-08	ERJ6GEY8222	M. RESISTOR CH 1/10W 2.2K	4	
R5509-13	ERJ6GEY8152	M. RESISTOR CH 1/10W 1.5K	5	
R5514	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R5515	ERJ8GCYJ221	M. RESISTOR CH 1/8W 220	1	
R5516	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R5517	ERJ6GEY8152	M. RESISTOR CH 1/10W 1.5K	1	
R5519	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	1	
R5520, 21	ERJ6GEY8272	M. RESISTOR CH 1/10W 2.7K	2	
R5524, 25	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	2	
R5526	ERJ6GEY8821	M. RESISTOR CH 1/10W 820	1	
R5527	ERJ6GEY8151	M. RESISTOR CH 1/10W 150	1	
R5528	ERJ6GEY8821	M. RESISTOR CH 1/10W 820	1	
R5529	ERJ6GEY8151	M. RESISTOR CH 1/10W 150	1	
R5530	ERJ12YJ270	M. RESISTOR CH 1/2W 270	1	
R5531	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R5532, 33	ERJ6GEY8182	M. RESISTOR CH 1/10W 1.8K	2	
R5534	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	1	
R5535	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R5540	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R5600	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R5601, 02	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	2	
R5603, 04	ERJ6GEY8391	M. RESISTOR CH 1/10W 390	2	
R5605, 06	ERJ6GEY8222	M. RESISTOR CH 1/10W 2.2K	2	
R5607, 08	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	2	
R5609, 10	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	2	
R5611, 12	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	2	
R5613, 14	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	2	
R5615-18	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	4	
R5700	ERJ6GEYJ100	M. RESISTOR CH 1/10W 10	1	
R5701, 02	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	2	
R5703, 04	ERJ6GEY8121	M. RESISTOR CH 1/10W 120	2	
R5705	ERJ6GEY8222	M. RESISTOR CH 1/10W 2.2K	1	
R5706	ERJ6GEY8153	M. RESISTOR CH 1/10W 15K	1	
R5707, 08	ERJ6GEY8470	M. RESISTOR CH 1/10W 47	2	
R5709, 10	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	2	
R5711, 12	ERJ6GEY8101	M. RESISTOR CH 1/10W 100	2	
R5713, 14	ERJ6GEY8330	M. RESISTOR CH 1/10W 33	2	
R5715-18	ERJ6GEYOR00	M. RESISTOR CH 1/10W 0	4	
T65001, 02	VJR0646	TEST POINT	2	
TP5001-04	VJR0646	TEST POINT	4	
	VMP4891	RF HOLDER ANGLE	1	
	VSC4385	RF SHIELD CASE (UPPER)	1	
	VSC4386	RF SHIELD CASE (MIDDLE)	1	
	XTV3+6FR	SCREW	2	
	VSC4437	RF SHIELD CASE (LOWER)	1	
	VM22588	RF BARRIER	1	
	VEE9862	EARTH CABLE	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP83224B	P. C. BOARD W/COMPONENT	1	(RTL)
		V/S JACK		
G1, G2	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G4	ECA1CX5470	E. CAPACITOR 16V 47U	1	
G5, G6	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G8	ECA1CX5470	E. CAPACITOR 16V 47U	1	
G9, 10	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G11	ECUX1H270JCV	G. CAPACITOR CH 50V 27P	1	
G12, 13	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G14	ECUX1H270JCV	G. CAPACITOR CH 50V 27P	1	
G15, 16	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G17	ECUX1H270JCV	G. CAPACITOR CH 50V 27P	1	
G18, 19	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G20	ECUX1H270JCV	G. CAPACITOR CH 50V 27P	1	
G21, 22	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G23	ECUX1H270JCV	G. CAPACITOR CH 50V 27P	1	
G24, 25	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G26	ECUX1H270JCV	G. CAPACITOR CH 50V 27P	1	
G27	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G28, 29	ECA1CX5470	E. CAPACITOR 16V 47U	2	
G30	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G31, 32	ECA1CX5470	E. CAPACITOR 16V 47U	2	
G33-38	ECUM1H101JCH	G. CAPACITOR CH 50V 100P	6	
G50, 51	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G250-52	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	3	
D1-D5	MA152K	DIODE	5	
D6-11	MA3130-L	DIODE	6	
IC1	NJM78L09UA	IC	1	
IC2	NJM79L09UA	IC	1	
IC3	NJM78L09UA	IC	1	
IC4	NJM79L09UA	IC	1	
IC5	NJM78L09UA	IC	1	
IC6	NJM79L09UA	IC	1	
IC209	NJM78L09UA	IC	1	
IC210	NJM79L09UA	IC	1	
J1, J2	VJS3902	CONNECTOR (FEMALE)	2	
J3	VJS3901	CONNECTOR (FEMALE)	1	
J4, J5	VJS3902	CONNECTOR (FEMALE)	2	
J14	VJP3414A009	CONNECTOR (MALE)	1	
J16	VJP3414A015	CONNECTOR (MALE)	1	
J17	VJP3414A025	CONNECTOR (MALE)	1	
L1	VLQEL05F101J	COIL 100UH	1	
P1	VJP3375A060	CONNECTOR (MALE)	1	
Q1	2SA1022-B	TRANSISTOR	1	
Q2	2SC2295-B	TRANSISTOR	1	
Q3	2SA1022-B	TRANSISTOR	1	
Q4	2SC2295-B	TRANSISTOR	1	
Q5	2SA1022-B	TRANSISTOR	1	
Q6	2SC2295-B	TRANSISTOR	1	
Q7	2SA1022-B	TRANSISTOR	1	
Q8	2SC2295-B	TRANSISTOR	1	
Q9	2SA1022-B	TRANSISTOR	1	
Q10	2SC2295-B	TRANSISTOR	1	
Q11	2SB709A-R	TRANSISTOR	1	
Q12, 13	2SD601A-R	TRANSISTOR	2	
Q14	2SB709A-R	TRANSISTOR	1	
Q15, 16	2SD601A-R	TRANSISTOR	2	
Q17	2SB709A-R	TRANSISTOR	1	
Q18, 19	2SD601A-R	TRANSISTOR	2	
Q20	2SB709A-R	TRANSISTOR	1	
Q21, 22	2SD601A-R	TRANSISTOR	2	
Q23	2SB709A-R	TRANSISTOR	1	
Q24, 25	2SD601A-R	TRANSISTOR	2	
Q26	2SB709A-R	TRANSISTOR	1	
Q27, 28	2SD601A-R	TRANSISTOR	2	
R1	VRE0034E750	M. RESISTOR CH 1/10W 75	1	

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Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R2	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R3	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R4	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R5, R6	ERJ6GEY470	M. RESISTOR CH 1/10W 47	2	
R7	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	1	
R8	ERJ6GEY330	M. RESISTOR CH 1/10W 33	1	
R9	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R10	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R11	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R12	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R13, 14	ERJ6GEY470	M. RESISTOR CH 1/10W 47	2	
R15	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	1	
R16	ERJ6GEY330	M. RESISTOR CH 1/10W 33	1	
R17	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R18	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R19	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R20	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R21, 22	ERJ6GEY470	M. RESISTOR CH 1/10W 47	2	
R23	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	1	
R24	ERJ6GEY330	M. RESISTOR CH 1/10W 33	1	
R25	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R26	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R27	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R28	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R29, 30	ERJ6GEY470	M. RESISTOR CH 1/10W 47	2	
R31	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	1	
R32	ERJ6GEY330	M. RESISTOR CH 1/10W 33	1	
R33	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R34	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R35	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R36	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R37, 38	ERJ6GEY470	M. RESISTOR CH 1/10W 47	2	
R39	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	1	
R40	ERJ6GEY330	M. RESISTOR CH 1/10W 33	1	
R41, 42	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	2	
R43	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R44	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R45, 46	ERJ6GEY221	M. RESISTOR CH 1/10W 220	2	
R47	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R48-50	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	3	
R51	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R52	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R53, 54	ERJ6GEY221	M. RESISTOR CH 1/10W 220	2	
R55	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R56-58	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	3	
R59	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R60	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R61, 62	ERJ6GEY221	M. RESISTOR CH 1/10W 220	2	
R63	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R64-66	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	3	
R67	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R68	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R69, 70	ERJ6GEY221	M. RESISTOR CH 1/10W 220	2	
R71	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R72-74	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	3	
R75	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R76	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R77, 78	ERJ6GEY221	M. RESISTOR CH 1/10W 220	2	
R79	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R80-82	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	3	
R83	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R84	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R85, 86	ERJ6GEY221	M. RESISTOR CH 1/10W 220	2	
R87	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R88	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
SW1, W2	VSS0307	SWITCH	2	
	VMP4865	VIDEO I/O ANGLE	1	
	VMP4866	D SUB ANGLE	1	
	VX00102	SCREW	6	
	XTN26+6FFZ	SCREW	4	
	XTN3+10JFZ	SCREW	5	
	XYE3+EF8	SCREW	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP81074A	P. C. BOARD W/COMPONENT	1	(RTL)
		POWER (1)		
C1, C2	ECQU2A224MN	P. CAPACITOR 100V 0.22U	2	
C3, C4	VCK0260M332A	C. CAPACITOR 3300P	2	
C5	VCK0260M102A	C. CAPACITOR 1000P	1	
C7, C8	ECEC2EB681E	E. CAPACITOR 250V 680U	2	
C9, 10	ECA1HXLV220	E. CAPACITOR 50V 22U	2	
C11	ECA1HXLV010	E. CAPACITOR 50V 1U	1	
C12	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C13	ECA1HXLV010	E. CAPACITOR 50V 1U	1	
C14	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
C15	ECQB1H332JF	P. CAPACITOR 50V 3300P	1	
C16	ECQP1H471GZ	P. CAPACITOR 50V 470P	1	
C17, 18	ECQB1H104JF	P. CAPACITOR 50V 0.1U	2	
C19	ECQB1H562JF	P. CAPACITOR 50V 5600P	1	
C20	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
C21	ECQP1H471GZ	P. CAPACITOR 50V 470P	1	
C22	ECQB1H562JF	P. CAPACITOR 50V 5600P	1	
C23	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
C26	ECEA1HGE010	E. CAPACITOR 50V 1U	1	
C27	ECKF1H332KB	C. CAPACITOR 50V 3300P	1	
C28	ECA1CX5100	E. CAPACITOR 16V 10U	1	
C29	ECEA2GGE100	E. CAPACITOR 400V 10U	1	
C30	ECQV1H105JL	P. CAPACITOR 50V 1U	1	
C31	ECQE2A223KF	P. CAPACITOR 100V 0.022U	1	
C32	ECQU2A683MN	P. CAPACITOR 100V 0.068U	1	
D1	RBV606	DIODE	1	
D2	AC08FGM	DIODE	1	
D3	AP01C	DIODE	1	
D4	ERA22-06	DIODE	1	
D10	ERA22-02	DIODE	1	
D12	MA4240-H	DIODE	1	
D13, 14	ERA22-02	DIODE	2	
D15	MA4240-H	DIODE	1	
D17	ERA22-02	DIODE	1	
D18, 19	MA4051-M	DIODE	2	
D20-22	MA165	DIODE	3	
D23, 24	MA4051-M	DIODE	2	
IC1, C2	FA5311P	IC	2	
IC3	MK1210	IC	1	
△ L1	ELF18D850P	COIL	1	
△ L3	ELF18D608	COIL	1	
P1	VJP2638	CONNECTOR (MALE)	1	
P3	VJP2639	CONNECTOR (MALE)	1	
P4	VJP2824A007	CONNECTOR (MALE)	1	
P5	VJP3080	CONNECTOR (MALE)	1	
Q2, Q3	2SD893	TRANSISTOR	2	
Q4	UN1111	TRANSISTOR-RESISTOR	1	
Q5	2SD637	TRANSISTOR	1	
R1	ERC12GM334	S. RESISTOR 1/2W 330K	1	
R2	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R3	ERDS2FJ102	C. RESISTOR 1/4W 1K	1	
R4	ER62SJ471	M. RESISTOR 2W 470	1	
△ R5	ERU5TEK100	F. RESISTOR 5W 10	1	
R6	ER63SJ101	M. RESISTOR 3W 100	1	
R7, R8	ERDS2FJ684	C. RESISTOR 1/4W 680K	2	
R9	ERDS1TJ220	C. RESISTOR 1/2W 22	1	
R10	ERDS2FJ104	C. RESISTOR 1/4W 100K	1	
R11	EROS2GKF4700	M. RESISTOR 1/4W 470	1	
R12, 13	ERDS2FJ104	C. RESISTOR 1/4W 100K	2	
R14, 15	ERDS1TJ394	C. RESISTOR 1/2W 390K	2	
R16	ERDS1TJ220	C. RESISTOR 1/2W 22	1	
R17	EROS2GKF4700	M. RESISTOR 1/4W 470	1	
R18, 19	ERDS2FJ105	C. RESISTOR 1/4W 1M	2	
R20	ERDS1TJ470	C. RESISTOR 1/2W 47	1	
R22	ERDS1TJ334	C. RESISTOR 1/2W 330K	1	
R23, 24	ERDS1TJ104	C. RESISTOR 1/2W 100K	2	

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Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R25	ERDS2FJ103	C. RESISTOR 1/4W 10K	1	
R26	ERDS2FJ473	C. RESISTOR 1/4W 47K	1	
R27	ERDS2FJ563	C. RESISTOR 1/4W 56K	1	
R28	ERDS2CKF4701	M. RESISTOR 1/4W 4.7K	1	
R29	ERDS2FJ221	C. RESISTOR 1/4W 220	1	
R30	ERDS2CKF2700	M. RESISTOR 1/4W 270	1	
R31	ERDS1TJ470	C. RESISTOR 1/2W 47	1	
R32	ERDS1TJ334	C. RESISTOR 1/2W 330K	1	
R33, 34	ERDS1TJ104	C. RESISTOR 1/2W 100K	2	
R36	ERDS2FJ104	C. RESISTOR 1/4W 100K	1	
R37	ERDS2CKF4701	M. RESISTOR 1/4W 4.7K	1	
R38	ERDS2FJ221	C. RESISTOR 1/4W 220	1	
R39	ERDS2CKF2700	M. RESISTOR 1/4W 270	1	
R40, 41	ERDS1TJ394	C. RESISTOR 1/2W 390K	2	
R42	ERDS2FJ684	C. RESISTOR 1/4W 680K	1	
R44	ERDS2FJ104	C. RESISTOR 1/4W 100K	1	
		MISCELLANEOUS		
	VSG3434	SHIELD CASE	1	
	XYN3+F6FZS	SCREW	1	
	VMZ0965	CAPACITOR COVER	1	
	VMZ1608	CAPACITOR COVER	2	
	VMZ1798	BARRIER	2	
	VJF0384	CLAMPER	1	
	VMZ1356	C COVER	1	
	■ VEP81075A	P. C. BOARD W/COMPONENT	1 (RTL)	
		POWER (2)		
C40, 41	EEUFA1A682E	E. CAPACITOR 10V 6800P	2	
C42	EEUFA1VQ102LE	E. CAPACITOR 35V 1000U	1	
C43	EEUFA1E472E	E. CAPACITOR 25V 4700P	1	
C44	EEUFA1C272E	E. CAPACITOR 16V 2700P	1	
C45	EEUFA1C102E	E. CAPACITOR 16V 1000P	1	
C46	EEUFA1E681E	E. CAPACITOR 25V 680P	1	
C47, 48	EEUFA1CXL101	E. CAPACITOR 16V 100U	2	
C49	EEUFA1VGE471	E. CAPACITOR 35V 470U	1	
C50	EEUFA1EXLV101X	E. CAPACITOR 25V 100U	1	
C51-53	EEUFA1CXL101	E. CAPACITOR 16V 100U	3	
C54-56	EEUFA1H104JF	P. CAPACITOR 50V 0.1U	3	
C59	EEUFA1H104JF	P. CAPACITOR 50V 0.1U	1	
C60	EEUFA1H121KB	C. CAPACITOR 50V 120P	1	
C61	VCK0106K151	C. CAPACITOR 150P	1	
C62	VCK0106K221	C. CAPACITOR 220P	1	
C63	EEUFA1VXLV470	E. CAPACITOR 35V 47U	1	
C64	VCK0106K151	C. CAPACITOR 150P	1	
C65	VCK0106K221	C. CAPACITOR 220P	1	
C66	EEUFA1VXLV470	E. CAPACITOR 35V 47U	1	
C67, 68	EEUFA1E473KF	P. CAPACITOR 630V 0.047U	2	
C69	EEUFA1H101KB	C. CAPACITOR 500V 100P	1	
C70-75	EEUFA1H101KB	C. CAPACITOR 50V 100P	6	
C76-78	EEUFA1A822E	E. CAPACITOR 10V 8200P	3	
C79	EEUFA1H121KB	C. CAPACITOR 50V 120P	1	
C80, 81	EEUFA1H222JF	P. CAPACITOR 50V 2200P	2	
C82	EEUFA1H823JL	P. CAPACITOR 50V 0.082U	1	
D30	D30SC4M	DIODE	1	
D31	FML12SP	DIODE	1	
D32	RL4Z	DIODE	1	
D33	FML-G12SP	DIODE	1	
D34	FMB-G14L	DIODE	1	
D35	31DQ04	DIODE	1	
D36	RL22P	DIODE	1	
D37, 38	MA4075M	DIODE	2	
D39	MA4300-L	DIODE	1	
D40	MA4160-L	DIODE	1	
D41, 42	MA4130-M	DIODE	2	
D43	MA4160-L	DIODE	1	
D44, 45	ERA22-06	DIODE	2	
D46	AP01C	DIODE	1	
D47	ERA22-02	DIODE	1	
D48	MA4240-H	DIODE	1	
D49	AP01C	DIODE	1	
D50	ERA22-02	DIODE	1	
D51	MA4240-H	DIODE	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC11, 12	UPC1093J	IC	2	
L12	VLQ0479	COIL	1	
L13	VLQ0605	COIL	1	
L14	VLQ0354	COIL	1	
L15	VLQ0605	COIL	1	
L16	VLQ0354	COIL	1	
L17, 18	VLQ0410	COIL	2	
L19-22	VLP0074	COIL	4	
P11	VJP2824B003	CONNECTOR (MALE)	1	
P12	VJP2824B006	CONNECTOR (MALE) 6P	1	
P13	VJP2824B008	CONNECTOR (MALE)	1	
P14	VJP1243T	CONNECTOR (MALE) 3P	1	
△ Q11, 12	2SK1684	TRANSISTOR	2	
Q13-16	PS2561L1	TRANSISTOR-PHOTO COUPLER	4	
Q18	UN1214	TRANSISTOR-RESISTOR	1	
Q19	UN1114	TRANSISTOR-RESISTOR	1	
R50	ERG2SJ470	M. RESISTOR 2W 47	1	
R51, 52	ERDS2FJ183	C. RESISTOR 1/4W 18K	2	
R53	ERDS2CKF1801	M. RESISTOR 1/4W 1.8K	1	
R54	ERG2SJ470	M. RESISTOR 2W 47	1	
R55	VRT0033	THERMISTOR	1	
R56	ERDS2TJ331	C. RESISTOR 1/4W 330	1	
R57	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R58	ERDS2CKF3601	M. RESISTOR 1/4W 3.6K	1	
R59	ERDS2CKF4700	M. RESISTOR 1/4W 470	1	
R60	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R63	ERDS2TJ221	C. RESISTOR 1/4W 220	1	
R64	ERG2SJ681	M. RESISTOR 2W 680	1	
R65	ERG2SJ221	M. RESISTOR 2W 220	1	
R66	ERDS2TJ331	C. RESISTOR 1/4W 330	1	
R67	ERDS2TJ221	C. RESISTOR 1/4W 220	1	
R68	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R69	ERDS2CKF6801	M. RESISTOR 1/4W 6.8K	1	
R70	ERDS2CKF1601	M. RESISTOR 1/4W 1.6K	1	
R71	ERDS2TJ103	C. RESISTOR 1/4W 10K	1	
R72	ERG3SJ393	M. RESISTOR 3W 39K	1	
R73	ERG2SJ180	M. RESISTOR 2W 18	1	
R74	ERDS2FJ100	C. RESISTOR 1/4W 10	1	
R75	ERDS2FJ104	C. RESISTOR 1/4W 100K	1	
R76	ERW1PKR33	W. RESISTOR 1W 0.33	1	
R77	ERG3SJ393	M. RESISTOR 3W 39K	1	
R78	ERG2SJ180	M. RESISTOR 2W 18	1	
R79	ERDS2FJ100	C. RESISTOR 1/4W 10	1	
R80	ERDS2FJ104	C. RESISTOR 1/4W 100K	1	
R81	ERW1PKR33	W. RESISTOR 1W 0.33	1	
△ T1	VLT0860	TRANSFORMER	1	
△ T2	VLT0861	TRANSFORMER	1	
VR1, R2	VRV0064B501	V. RESISTOR 500	2	
	VSG4389	HEAT SINK (A)	1	
	VSG4390	HEAT SINK (B)	1	
	XYN3+F8FZS	SCREW	11	
	VEE9624	CABLE	1	
	VEE9625	CABLE	1	
	VMZ2504	INSULATION SHEET	1	
	■ VEP80856A	P. C. BOARD W/COMPONENT	1 (RTL)	
		GARRIGE		
P1	VJP1249T	CONNECTOR (MALE) 9P	1	
P2	VJS2889A012	CONNECTOR (FEMALE)	1	
P3	VJS2889A016	CONNECTOR (FEMALE)	1	
R1-R7	ERDS2TJ221	C. RESISTOR 1/4W 220	7	



## VEP82214A / VEP84291A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP82214A	P. C. BOARD W/COMPONENT	1	(RTL)
		MEGH 1/F		
■	VEP82210A	P. C. BOARD W/COMPONENT	1	(RTL)
		MEGH 1/F SUB1		FOR VEP82214A
G1	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1	
G1	ECUM1H561JCN	G. CAPACITOR CH 50V 560P	1	
C2-5	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	4	
G6	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G7	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G8	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G9, 10	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	2	
G11	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G12	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G13, 14	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	2	
G15	ECUM1H103KBN	G. CAPACITOR CH 50V 0.01U	1	
G20	ECUM1H103ZFN	G. CAPACITOR CH 50V 0.01U	1	
G21	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G22	ECUM1H103ZFN	G. CAPACITOR CH 50V 0.01U	1	
G23	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G100	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G101	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G102	ECA1HEN101	E. CAPACITOR 50V 100U	1	
D1	MA157	DIODE	1	
D1	MA738	DIODE	1	
D100, 01	MA738	DIODE	2	
IC1	OP177GS	IC	1	
IC1	MC14538BF	IC	1	
IC2	OP177GS	IC	1	
IC3	NJM4580ED	IC	1	
IC4-G6	UPC4558G2	IC	3	
IC10	NJM78L09UA	IC	1	
IC11	NJM79L09UA	IC	1	
L1, L2	VLF1016A470	FILTER	2	
L100	VLP0133	COIL	1	
P1	VJP2891A030	CONNECTOR (MALE)	1	
P2	VJP3418A080	CONNECTOR (MALE)	1	
P11	VJP3172D002	CONNECTOR (MALE)	1	
P12	VJP3172D005	CONNECTOR (MALE)	1	
P13	VJP3172D002	CONNECTOR (MALE)	1	
P14	VJP3172D003	CONNECTOR (MALE)	1	
P15	VJP3518B002	CONNECTOR (MALE)	1	
P16	VJP3518B003	CONNECTOR (MALE)	1	
P17	VJS3801B010	CONNECTOR (FEMALE)	1	
P18	VJP3518B002	CONNECTOR (MALE)	1	
P19	VJP3172D002	CONNECTOR (MALE)	1	
P20	VJP3518B003	CONNECTOR (MALE)	1	
P21	VJP3518B002	CONNECTOR (MALE)	1	
P22, 23	VJP3172D004	CONNECTOR (MALE)	2	
P24	VJP3518B002	CONNECTOR (MALE)	1	
P25	VJP1230T	CONNECTOR (MALE) 3P	1	
P26	VJP1236T	CONNECTOR (MALE) 9P	1	
P30	VJP3172D003	CONNECTOR (MALE)	1	
P32	VJP3172D004	CONNECTOR (MALE)	1	
P33	VJS3406B015	CONNECTOR (FEMALE)	1	
P34, 35	VJS2889A017	CONNECTOR (FEMALE)	2	
P36	VJS3406B019	CONNECTOR (FEMALE)	1	
P41	VJP3172D002	CONNECTOR (MALE)	1	
P48	VJP3125B002	CONNECTOR (MALE)	1	
Q1	2SB1073-R	TRANSISTOR	1	
Q1	2SB1218A-R	TRANSISTOR	1	
Q100	2SB1073-R	TRANSISTOR	1	
QR1	UN2214	TRANSISTOR-RESISTOR	1	
QR100	UN2214	TRANSISTOR-RESISTOR	1	
R1	ERJ6GEY8821	M. RESISTOR CH 1/10W 820	1	
R1	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R2	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	1	
R2, R3	ERJ6GEY8562	M. RESISTOR CH 1/10W 5.6K	2	
R3	ERJ8GCYJ102	M. RESISTOR CH 1/8W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R4	ERJ6GEY8562	M. RESISTOR CH 1/10W 5.6K	1	
R5	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R6, R7	ERJ6GEY8562	M. RESISTOR CH 1/10W 5.6K	2	
R8	ERJ6GEYF333	M. RESISTOR CH 1/10W 33K	1	
R9, 10	ERJ6GEY8562	M. RESISTOR CH 1/10W 5.6K	2	
R11	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R12, 13	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	2	
R14	ERJ6GEY8104	M. RESISTOR CH 1/10W 100K	1	
R15	VRE0034E823	M. RESISTOR CH 1/10W 82K	1	
R16	VRE0034E223	M. RESISTOR CH 1/10W 22K	1	
R17	ERJ6GEY8273	M. RESISTOR CH 1/10W 27K	1	
R18	ERJ6GEY8103	M. RESISTOR CH 1/10W 10K	1	
R19	ERJ6GEY8273	M. RESISTOR CH 1/10W 27K	1	
R20	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
R21	VRE0034E183	M. RESISTOR CH 1/10W 18K	1	
R22	VRE0034E473	M. RESISTOR CH 1/10W 47K	1	
R23	VRE0034E682	M. RESISTOR CH 1/10W 6.8K	1	
R24	VRE0034E222	M. RESISTOR CH 1/10W 2.2K	1	
R25	VRE0034E391	M. RESISTOR CH 1/10W 390	1	
R27	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R34	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R36, 37	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	2	
R100	ERJ6GEY8223	M. RESISTOR CH 1/10W 22K	1	
R101	ERJ8GCYJ102	M. RESISTOR CH 1/8W 1K	1	
R102	ERJ6GEY8102	M. RESISTOR CH 1/10W 1K	1	
T81	VJR0646	TEST POINT	1	
TP1	VJR0646	TEST POINT	1	
VR1	VRV0064B203	V. RESISTOR 20K	1	
VR2	VRV0064B503	V. RESISTOR 50K	1	
■	VEP84291A	P. C. BOARD W/COMPONENT	1	(RTL)
		A JACK		
G1, G2	ECUM1H103ZFN	G. CAPACITOR CH 50V 0.01U	2	
G7, G8	ECUM1H103ZFN	G. CAPACITOR CH 50V 0.01U	2	
G101	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G102	ECA1CX5470	E. CAPACITOR 16V 47U	1	
G103	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	1	
G104	ECA1CX5470	E. CAPACITOR 16V 47U	1	
G105-08	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	4	
G109	ECUM1H101JCN	G. CAPACITOR CH 50V 100P	1	
G110	ECUM1H270JCN	G. CAPACITOR CH 50V 27P	1	
G111	ECUM1H101JCN	G. CAPACITOR CH 50V 100P	1	
G112	ECUM1H270JCN	G. CAPACITOR CH 50V 27P	1	
G113-17	ECUM1E104ZFN	G. CAPACITOR CH 25V 0.1U	5	
G121, 22	ECUM1H330JCN	G. CAPACITOR CH 50V 33P	2	
D1, D2	MA152K	DIODE	2	
D3, D4	MA3130-L	DIODE	2	
IC1	NJM78L09UA	IC	1	
IC2	NJM79L09UA	IC	1	
J1, J2	VJS3417	CONNECTOR (FEMALE)	2	
J7, J8	VJP3417	CONNECTOR (MALE)	2	
P1	VJP3375A060	CONNECTOR (MALE)	1	
P2	VJP3094	CONNECTOR (MALE)	1	
Q1	2SA1022-B	TRANSISTOR	1	
Q2	2SC2295-B	TRANSISTOR	1	
Q3	2SA1022-B	TRANSISTOR	1	
Q5	2SB709A-R	TRANSISTOR	1	
Q6, Q7	2SD601A-R	TRANSISTOR	2	
Q8	2SB709A-R	TRANSISTOR	1	
Q9, 10	2SD601A-R	TRANSISTOR	2	
Q11	UN2112	TRANSISTOR-RESISTOR	1	
Q12	2SD601A-R	TRANSISTOR	1	
Q13	UN2213	TRANSISTOR-RESISTOR	1	
R2	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R4	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	

VEP84291A / VEP80A12A / VEP86256A

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R6	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R8	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R26	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R28	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R30	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R32	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R101	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R103	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R104	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R105, 06	ERJ6GEY470	M. RESISTOR CH 1/10W 47	2	
R107	ERJ6GEY102	M. RESISTOR CH 1/10W 1K	1	
R108	ERJ6GEY330	M. RESISTOR CH 1/10W 33	1	
R109	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R110	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R111	ERJ6GEYJ334	M. RESISTOR CH 1/10W 330K	1	
R112	ERJ6GEY332	M. RESISTOR CH 1/10W 3.3K	1	
R116	ERJ6GEY330	M. RESISTOR CH 1/10W 33	1	
R117, 18	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	2	
R119	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R120	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R121, 22	ERJ6GEY221	M. RESISTOR CH 1/10W 220	2	
R123	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R124	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R125, 26	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	2	
R127	ERJ6GEY470	M. RESISTOR CH 1/10W 47	1	
R128	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R129, 30	ERJ6GEY221	M. RESISTOR CH 1/10W 220	2	
R131	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R132	VRE0034E750	M. RESISTOR CH 1/10W 75	1	
R133	ERJ6GEY682	M. RESISTOR CH 1/10W 6.8K	1	
R134, 35	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	2	
R136	ERJ6GEY105	M. RESISTOR CH 1/10W 1M	1	
R137	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R138	ERJ6GEYF393	M. RESISTOR CH 1/10W 39K	1	
R139	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R140	ERDS2TJ470	C. RESISTOR 1/4W 47	1	
	■ VEP80A12A	P. C. BOARD W/COMPONENT	1 (RTL)	
		TC & JACK		
J1, J2	VJS3155	CONNECTOR (FEMALE)	2	
J3, J4	VJS3154	CONNECTOR (FEMALE)	2	
J5	VJJ0322	MOTOR JACK	1	
P1	VJP3094	CONNECTOR (MALE)	1	
	VMP4867	XLR GUIDE ANGLE (A)	1	
	KYN26+8F	SCREW	2	
	■ VEP86256A	P. C. BOARD W/COMPONENT	1 (RTL)	
		FRONT CPU		
G1	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G2	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1	
G3	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
G4, G5	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	2	
G6	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G7-12	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	6	
G13	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G14	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
G15-17	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	3	
G18	ECEA0JGE471	E. CAPACITOR 6.3V 470U	1	
G19	ECEV1HV010Q	E. CAPACITOR CH 50V 1U	1	
G20, 21	ECUM1H333KBN	C. CAPACITOR CH 50V 0.033U	2	
G22	ECEA1HGE330	E. CAPACITOR 50V 33U	1	
G23	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
G24	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G25, 26	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G27	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G28, 29	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
G30	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1	
G31, 32	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G33	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
G34, 35	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	2	
G36	ECEV1CN100Q	E. CAPACITOR CH 16V 10U	1	
G40	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
D1	LN28RCPP	LED	1	
D2-D5	LN38GCPP	LED	4	
D7-14	MA152WK	DIODE	8	
D15-18	MA152K	DIODE	4	
D19	MA152WK	DIODE	1	
D20-24	MA152K	DIODE	5	
D25	MA4300-M	DIODE	1	
D26	MA166	DIODE	1	
D27	MA4062M	DIODE	1	
D28, 29	MA166	DIODE	2	
DP1	VSL0489	DISPLAY	1	
F1	EYP2BN135	FUSE	1	
FL1-L4	VLF1016A470	FILTER	4	
IC1	HD64180ZRP8	IC	1	
IC2	VS12386	IC	1	
IC3	K6256CLG7L	IC	1	
IC4	TL7705CPSB	IC	1	
IC5	74F32SJ	IC	1	
IC6	MC74HC04AF	IC	1	
IC7	MC74HC32AF	IC	1	
IC8	UPD71055GB	IC	1	
IC9	MC74HC4538A	IC	1	
IC10	MC34051M	IC	1	
IC11	UPD16310GF	IC	1	
IC12	NJM78L09UA	IC	1	
IC13	NJM79L09UA	IC	1	
IC14, 15	NJW4580ED	IC	2	
IS2	VJS2336A032	CONNECTOR (FEMALE)	1	
L1	VLP0133	COIL	1	
P1	VJP1243T	CONNECTOR (MALE) 3P	1	
P2	VJP3095	CONNECTOR (MALE)	1	
P3	VJP3088	CONNECTOR (MALE)	1	
P4	VJP3091	CONNECTOR (MALE)	1	
Q1-Q5	2SD601A-R	TRANSISTOR	5	
Q6, Q7	2SC1815Y	TRANSISTOR	2	
Q8	2SC3074Y	TRANSISTOR	1	
QR1-R3	UN2214	TRANSISTOR-RESISTOR	3	
R1	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R8-15	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	8	
R16	ERJ6GEY222	M. RESISTOR CH 1/10W 2.2K	1	
R17	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R18-25	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	8	
R26, 27	ERJ6GEY223	M. RESISTOR CH 1/10W 22K	2	
R28	ERJ6GEY221	M. RESISTOR CH 1/10W 220	1	
R29, 30	ERJ6GEY223	M. RESISTOR CH 1/10W 22K	2	
R31	ERJ6GEY221	M. RESISTOR CH 1/10W 220	1	
R32, 33	ERJ6GEY223	M. RESISTOR CH 1/10W 22K	2	
R34	ERJ6GEY221	M. RESISTOR CH 1/10W 220	1	
R35, 36	ERJ6GEY223	M. RESISTOR CH 1/10W 22K	2	
R37	ERJ6GEY221	M. RESISTOR CH 1/10W 220	1	
R38, 39	ERJ6GEY223	M. RESISTOR CH 1/10W 22K	2	
R40	ERJ6GEY221	M. RESISTOR CH 1/10W 220	1	
R44	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R49, 50	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R51, 52	ERJ6GEYF472	M. RESISTOR CH 1/10W 4.7K	2	
R53	ERJ6GEY101	M. RESISTOR CH 1/10W 100	1	
R54	ERJ6GEY103	M. RESISTOR CH 1/10W 10K	1	
R55	ERDS2TJ222	C. RESISTOR 1/4W 2.2K	1	
R56, 57	ERDS2TJ221	C. RESISTOR 1/4W 220	2	
R58	ERDS2TJ220	C. RESISTOR 1/4W 22	1	
R59	ERJ8GCVJ103	M. RESISTOR CH 1/8W 10K	1	



### Servicing Fixtures & Tools

ITEM	PART No.	JIG & EQUIPMENT	Pcs	Remarks
Jig Tool	VFK1145	Back Tension Meter (T2-M30-P)	1	
	VFK1149	Post Driver	1	
	VFK71	Dial Torque Gauge (150g)	1	
	VFK1191	Dial Torque Gauge (45g)	1	
	VFK1152	Dial Torque Gauge Adaptor	1	
	VFK0357	Eccentric Screwdriver (1.5)	1	
	VFK1154	Post Height Fixture	1	
	VFK1153	Mech. Neutral Plate (Post)	1	
	VFK1157	Mech. Neutral Plate (Cassette)	1	
	VFK1155	Neutral Position Tool (Gold)	1	
	VFK1156	Neutral Position Tool (Black)	1	
	VFK1208	Neutral Position Tool (Black With Hole)	1	
	VFK1150	Nut Driver (5.5mm)	1	
	VFK1151	Nut Driver (2.5mm)	1	
	VFK1188	Dial Tension Gauge (30g)	1	
	VFK0948	Check Light	1	
	VFK0749	Froiral Grease (for plastic)	1	
	MOR265	Morlytone Grease (for metal)	1	
	VFK1146	Phillips Driver (Fine)(00-75)	1	
	VFK1147	Phillips Driver (Fine)(0-100)	1	
	VFK1148	Hex. Driver (1.5)	1	
	VFK1178	Hex. Driver (0.89)	1	
	VFK1179	Hex. Driver (0.71)	1	
	VFK1190	Hex. Wrench	1	
	VFK1209	Torque Driver (0.4-3Kg)	1	
	VFK0912	Post Axis Driver (1.5mm)	1	
	DAQ-12	A/D Board	1	Purchase locally
	VFM3580KM	Alignment Tape (No. 1)	1	
	VFM3581KM	Alignment Tape (No. 2)	1	
	VFM3582KM	Alignment Tape (No. 3)	1	
	AJ-CL12MP	Cleaning Tape	1	SALES
	VFK1159	LISTA Software	1	
	VFK1186	LISTA CABLE	1	
	VFK1192	F EXTENSION BOARD	1	
	VFK1193	H EXTENSION BOARD	1	
	VFK0369	Tweezers	1	
	VFK0371	Radio Prier	1	
	VFK0372	Cutter Prier	1	
	VFK0338	Trimmer Adjustment Driver	1	
	VFK0337	Phillips Driver	1	
	VFM3000EDS	Alignment Tape (DV LISTA)	1	
	VFM3010EDS	Alignment Tape (DV Color Bar)	1	for NTSC